

Spillman Classic Geobase Administrator Manual

Spillman® Public Safety Software

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Preface

Welcome to the *Spillman Classic Geobase Administrator Manual*.

This manual is written for Spillman Applications Administrators (SAA) whose agencies use the Spillman Geobase module and ArcGIS to create a geobase of street and address information about their jurisdictions.

Using this manual

This manual discusses the following information:

- [Chapter 1](#) provides an introduction to Spillman Geobase and ArcGIS.
- [Chapter 2](#) provides instructions on specific tasks to complete before building your map in ArcGIS.
- [Chapter 3](#) provides instructions on constructing the map in ArcGIS.
- [Chapter 4](#) provides instructions on transferring data from ArcGIS to Spillman.
- [Chapter 5](#) provides instructions on using the geobase.
- [Chapter 6](#) provides instruction on maintaining the geobase from Spillman.
- [Chapter 7](#) provides instructions on maintaining the geobase from ArcGIS.

- [Appendix A](#) provides a sample database and corresponding maps, including example street names, aliases, and abbreviations when entering street addresses.
- [Appendix B](#) provides a reference guide with tasks that apply to ArcGIS.
- The [Glossary](#) provides term definitions central to the Spillman software.

Other Spillman manuals

The *Spillman Application Setup and Maintenance Manual* provides information for the SAA at your agency, including procedures for installing and maintaining Spillman.

Windows basics

Before using Spillman, you should be familiar with the standard features of Microsoft® Windows®. At minimum, you should know how to:

- Use a mouse or keyboard to do basic tasks, such as choosing menu options and buttons.
- Work with windows, such as selecting, minimizing, restoring, maximizing, sizing, scrolling, closing, and so forth.
- Work with dialog boxes.

If these tasks are unfamiliar, refer to your Windows online documentation or complete an online Windows tour.

System requirements

To set up your geobase, the following is required:

- A dedicated PC with one of the following operating systems:
 - Microsoft Windows 2000
 - Microsoft NT 4.0 or later
 with at least the following:
 - A Pentium or higher Intel-based microprocessor and a hard disk
 - 24 MB of RAM (32 MB is recommended)
 - A VGA monitor (a 17” or larger screen is highly recommended)

- ArcGIS 9.x
- File transfer software, such as NFS, FTP, or Kermit
- A Street Info-compatible data source of all areas to be geocoded
- A map showing dispatch zones and reporting areas for law, fire, EMS, and miscellaneous zones and areas (if geocoding for zones and reporting areas)
- A map showing all city boundaries (if geocoding for more than one municipality in the area)
- Street addressing information, which can be obtained from the utility company, phone company, post office, county assessor's office, or other sources
- Familiarity with geobase setup instructions

Conventions

When using this manual, please note the following conventions.

Convention	Meaning/Use	Examples
bold	Used for names of menus, options, text boxes, buttons, fields, and other items that appear on the screen.	OK is a button on the screen. Click OK , or press Enter.
angle bracket (>) between items	Shows the menu option(s) that must be selected in sequence to get to a specific option.	From the Start menu, select Programs > Spillman 3.0 > Spillman 3.0 .
plus sign (+) between keys	Used for keys pressed at the same time. Hold down the first key, and then press the other key(s). When a keystroke is available for a mouse action, both the mouse action and the keystroke are presented.	Press Ctrl+E. Click the Lookup button, or press Ctrl+E.
Alt+underlined letter in button name	Indicates the keyboard method for selecting a button. Press Tab until the button is highlighted, and then press Enter.	Click the Accept button, or press Alt+A.
Courier font	Used for text that is displayed.	The software prompts: Are you sure you want to delete this record?

Convention	Meaning/Use	Examples
bold Courier font	Used for information you type.	Type the street address, such as 401 W Sycamore St.
<i>italics</i>	Used for emphasis. Used for variable information you supply.	Type the date, using the <i>mm/dd/yyyy</i> format.

The following boxes signify special information.

NOTE

Notes call attention to information that is of particular importance or that varies depending on a particular condition, such as the way your Spillman Application Administrator has configured the software.

TIP

Tips present recommendations, optional actions, and additional ways to perform specific tasks.

CAUTION

Cautions point out actions that might endanger your data or its integrity (usefulness) or cause other problems later.

Features on your computer will depend upon your software version, modules, and privileges. Actual screens on your computer may vary from example screens shown in this manual. However, any differences are minor and do not affect the tasks being described.

chapter 1

How Your Agency Uses the Geobase

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Introduction

With the Spillman® Geobase module and ArcGIS, a database can be built that contains detailed street and address information about your jurisdiction. This database is called the geobase, and includes the following:

- Addresses
- Intersections
- Alternate or alias names for streets and addresses
- The agency that is to respond to law, fire, EMS, and miscellaneous calls to a given address

To build the geobase, the initial setup must be performed in Spillman, a map created in ArcGIS, and data transferred from ArcGIS to Spillman. The geobase can then be maintained in ArcGIS.

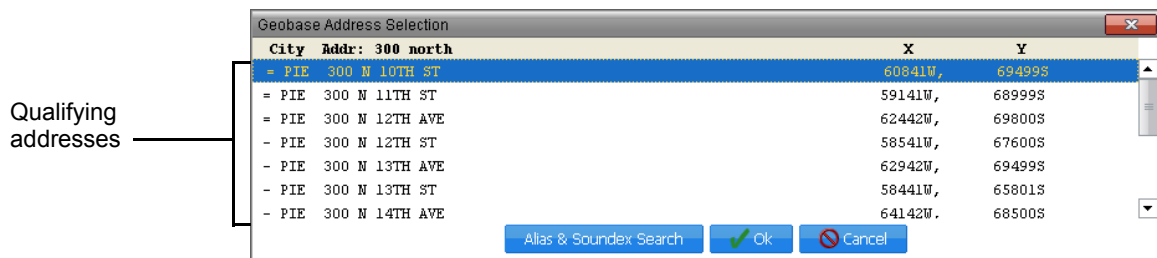
The following sections provide an introduction to the Spillman Geobase module and ArcGIS:

- [“Entering and Searching for Addresses” on page 21](#)
- [“Creating Address Alerts” on page 22](#)
- [“Understanding Distance-based and Grid-based Addressing” on page 25](#)
- [“Maintaining the Geobase Address Maintenance Table” on page 29](#)
- [“Determining if an Address is Geobased” on page 30](#)
- [“Reviewing Setup Tasks” on page 33](#)

Entering and Searching for Addresses

The Geobase module simplifies the task of entering addresses in Spillman. When an address is entered in a Spillman table, the software performs a search and opens the Geobase Address Selection window to display all qualifying addresses from the geobase. The city and x-, y-coordinates of each matching address are listed so users can select the correct candidate.

For example, if searching on the address 300 North, the Geobase Address Selection window opens and displays all matching addresses from the geobase, as shown in the following example.



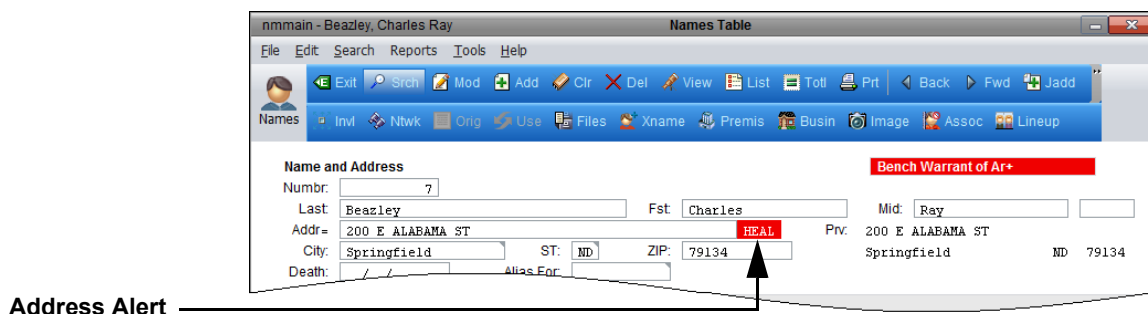
For more information, see [“Using the Geobase Address Selection window”](#) on page 243.

Creating Address Alerts

Address alerts can be created for any street address in your geobase to notify users of additional information or potential risks related to that location. For example, if the location poses a health risk to responding officers, then the alert code for Health Hazard (HEAL) can be added to the address.

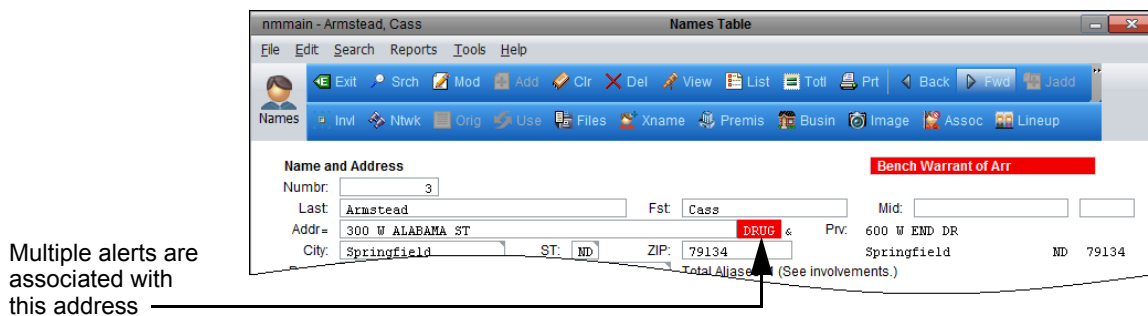
For information on adding alerts to addresses with apartment or office number, see [“Entering addresses with apartment or office numbers” on page 255.](#)

Once created, the address alert displays next to the specified address on any Spillman screen that has an address field, as shown in the following example.



More than one alert can be added to an address. When an address has multiple alerts, the first alert code associated with the address displays, followed by an ampersand (&).

For example, in the following Names record, the address 300 W Alabama St has the alert of DRUG &, indicating that DRUG is the first associated alert code, but more alerts are available to view.



To view additional alerts:

1. From the open record, click **View**.

All fields become numbered, and the Field to view dialog box opens.

- In the dialog box, enter the number of the **Address Alert** field, and then click **OK**.

The Geobase Address Alerts detail window opens, listing all alerts associated with the address, as shown in the following example.

Geobase Address Alerts

Seq	Code		Date	Review Date
1	DRUG	Possible Drugs on Premises	10/24/01	10/24/02
2	D0G	Possible Attack Dogs	10/24/01	10/24/03

User: train2 Go forward in current set/table OVR

In Law Incident (law) records, alerts for two addresses can display. One alert is for the address where the incident occurred and the second is for the address of the complainant, as shown in the following example.

Law Incident Table

Incident Number: 0203-0002 Nature: Abandoned Vehicle

Case Number: Address: 200 N CEDAR ST City: Springfield State: ND ZIP: 79134 Area: LW Law West Zone

Complainant

Number: 5 Arrest Warrant+ Last: Flutie DOB: 12/15/60 SSN: 222-22-2222 Race: W Sx: M Tel: (256) 555-8888 Fst: Adam Mid: Joe Adr: 401 ELDER ST City: Springfield ST: ND ZIP: 79134

Details

Offense Codes: ABAN Reported: ABAN Observed: DRUG 4

Circumstances: Rspndg Officers: D Gordon Rspnsbl Officer: D Gordon Received By: S Fowler How Received: T Telephone When Reported: 10:34:41 03/25/02 Occurr between: 10:34:31 03/25/02 and: 10:34:31 03/25/02 MO: Agency: SPD CAD Call ID: C069 Last RadLog: 10:36:02 03/25/02 CHPLT Clearance: RTF Report to Follow Disposition: UNF Disp Date: 03/25/02 Judicial Sts: NCI Non-Criminal Incident Misc Entry: Jones

Narrative

Narrative: Supplement:

Approval Status: To: From: Date: History

User: train2 Search for specific records OVR Rec 1

For more information on address alerts on Law Incident (law) screens, see the *Spillman Law Enforcement Records Management User's Guide*.

For the following Computer-Aided Dispatch (CAD) screens, address alerts themselves do not display:

- Add Call (ac)
- Modify Call (mc)
- Call Information (ci)
- Dispatch (dc)
- Calls (calls or ca)

Instead, the number of alerts that exist for the address of the complainant and for the call display, as shown in the following example.

The screenshot shows the 'Add A New Call' window with the following fields and values:

- Call: 5, Nature: Theft, Type: 1, Priority: 4, City: SFD
- Address: 500 N ECLIPSE ST
- Intersection of: N ECLIPSE ST & PALM AVE
- Zones: 1: LSE, Determ: , Alarm:
- Directions:
- Complainant: 3, Bench Warrant of Arr
- Lst: Armstead, Fst: Cass, Mid:
- Adr: 300 W ALABAMA ST, DOB: 10/10/72
- Cty: Springfield, ST: ND, Zip: 79134, SSN: 233-33-3333
- Tel: (256) 555-2492, Sex: F, Prev Calls: 2, Wants: 1, Adr: 2
- Alt: DUSR, CVET, FEL, RCSA, ALCO, ARSO, DNA, GUNP, KNOP, MART, MPAT
- Contact: , Tel: () -
- Address: , L Plate: , St:
- Info:
- Calls: 1, Dupl: 0, Names: 0, w/Alts: 0, Wants: 0, Prem: 0, Addr: 1
- How Rcvd: T Telephone, Occurred between: 13:17:36 01/15/09
- Rcvd by: B Pratt, and: 13:17:36 01/15/09
- Hld Until: : / / , When Rptd: 13:17:53 01/15/09

Two arrows point to the 'Adr' field in the 'Complainant' section and the 'Addr' field in the 'Info' section, both showing the value '1'.

Number of alerts
for the address of
the complainant

Number of alerts
for the address of
the call

For more information on address alerts on CAD screens, see the *Spillman CAD User's Guide*.

Understanding Distance-based and Grid-based Addressing

Before building your geobase, review the following addressing methods:

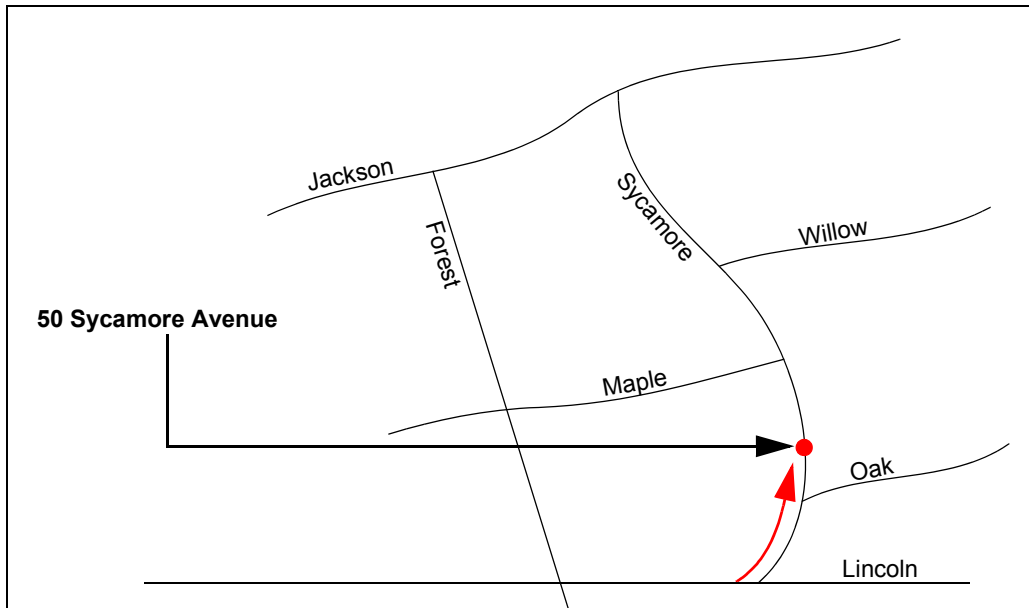
- “Using distance-based addressing” on page 25
- “Using grid-based addressing” on page 26

Using distance-based addressing

Distance-based addressing is compatible with Spillman and ArcGIS. When using distance-based addressing, each address is based on the number of increments from the beginning of the road to the address. The following distance increments are commonly used:

- 5 feet
- 5.28 feet (.001 miles)
- 10 feet
- 25 feet
- 26.4 feet (.005 miles)
- 50 feet
- 52.8 feet (.01 miles)
- 100 feet

For example, the following map shows the address 50 Sycamore Avenue as a distance-based address.



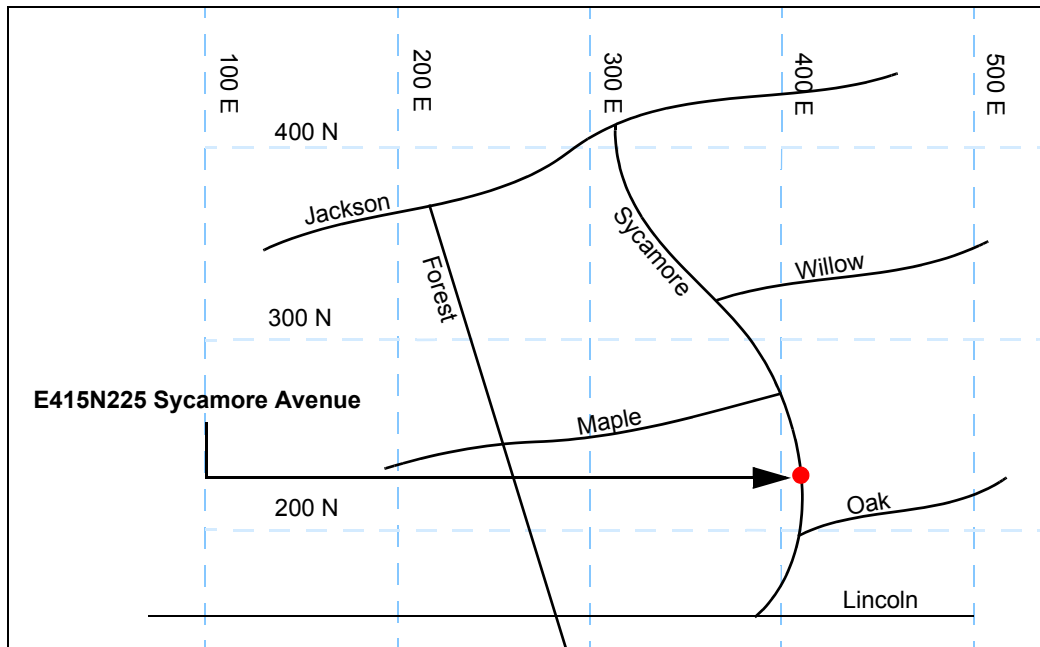
NOTE

When using distance-based addressing, numbering starts at the beginning of the street and ascends based on the determined increment. The majority of this manual is written for maps using distance-based addressing.

Using grid-based addressing

Grid-based addressing is compatible with Spillman and ArcGIS. When using grid-based addressing, each address is based on its relationship to a grid of the area. Each address can be determined by finding the east-west coordinate (x) and the north-south coordinate (y) on the grid. Do not confuse grid-based x-, y-coordinates with longitude and latitude x-, y-coordinates.

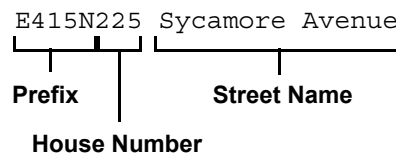
Grid-based addresses contain both an x- and a y- coordinate. Therefore, addresses can be very long. For example, the following map shows E415N225 Sycamore Avenue as a grid-based address.



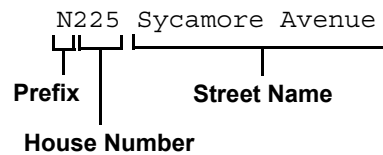
Each grid-based address in Spillman is broken into the following address components:

- **Prefix**
- **House Number**
- **Street Name**

Therefore, the address E415N225 Sycamore Avenue would be broken down in the following way.



A prefix may contain a direction indicator and a number, as shown on [page 27](#), or it may contain only a directional indicator, as shown in the following example.



NOTE

Only one prefix component is allowed for each street segment. If a street contains multiple prefixes, then the street must be broken at the point where the prefix changes. Agencies might use the same prefix for a group of similar addresses. For example, all houses on a northbound street might have the prefix N489E.

For more information on grid-based addressing, see [“Constructing the Map in ArcGIS” on page 79](#) and [“Transferring Data from ArcGIS to Spillman” on page 209](#).

Maintaining the Geobase Address Maintenance Table

Addresses can be maintained in ArcGIS, if desired. An address layer can be created in ArcGIS, and then the address information transferred to Spillman. For more information, see [“Constructing the Map in ArcGIS” on page 79](#) and [“Transferring Data from ArcGIS to Spillman” on page 209](#).

Determining if an Address is Geobased

When an address record is created in the Geobase Address Maintenance table (gbaddr), it is assigned a unique identifying number called an Address ID, which is used to reference the address throughout the Spillman software. If an address has an Address ID, then it is geobased.

Each Address ID, along with other pertinent address information, is stored in the gbaddr record in the Geobase Address Maintenance table (gbaddr), as shown in the following example.

Address ID number →

The screenshot shows the 'Geobase Address Maintenance' window. The 'Address' section contains the following fields:

- Address ID: 434 (indicated by an arrow from the 'Address ID number' label)
- Prefix:
- House #: 649
- Pre-Type:
- Suffix:
- Pre-Directional:
- Street Name:
- Full Street: W MOBILE ST
- Post-Type:
- Post-Directional:
- Occupancy Type:
- Occupancy Value:
- Cross Street:
- Intersection:
- City: SFD Springfield
- State: MD
- ZIP: 79134
- User-Defined XY: N
- Coordinates: X: -40012 High Bits: -20 Y: -17989
- Intersection of: W MOBILE ST & ROGERS AVE

The 'Directions' section contains:

- Directions: (text input field)
- (Only 1 or 2 lines below will be seen in CAD)
- Location: (text input field)

The 'Alerts' section contains:

- Address Alerts: Code
- Date: / /
- Review Date: / /

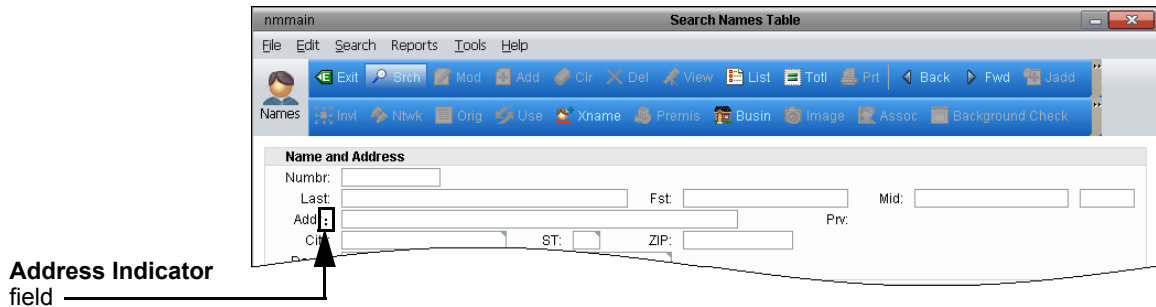
At the bottom, it says 'User: train2 Modify the current record' and 'OVR'.

An address is not geobased if a record for that address does not exist in the gbaddr table. If an address is not geobased and is searched for in Spillman, then the software searches for the actual value entered in the address field rather than for the Address ID number.

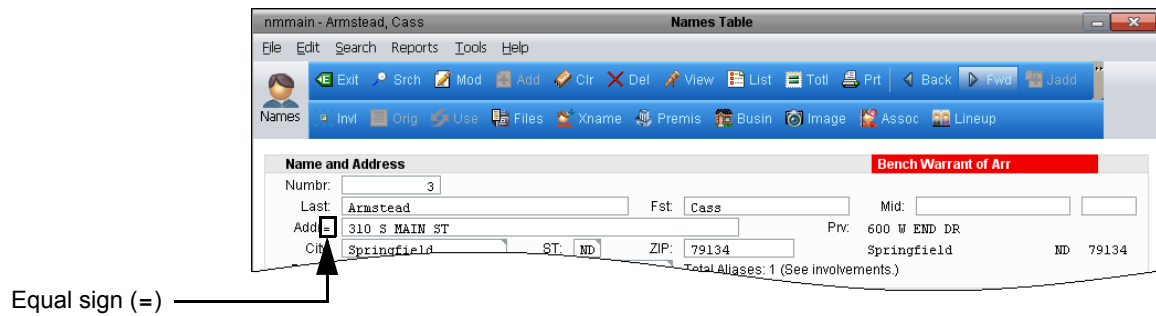
Geobasing an address ensures that the address location remains the same, even if the street name changes. For example, if the street name of 135 Victoria Road is changed to 135 Gary Walton Drive, and the address is geobased, then when a search is performed for law incidents that occurred at 135 Gary Walton Drive, the software finds all law incidents listed for both 135 Gary Walton Drive and 135 Victoria Road.

Determining if an address in a Spillman table is geobased

The **Address Indicator** field distinguishes whether a particular address exists in your agency's geobase, and is usually located immediately after the field description **Addr**, as shown in the following example.



If the address is geobased, then the **Address Indicator** field will contain the unique Address ID the software generated when the `gbaddr` record was created. However, the field does not *display* the Address ID. Instead, it displays an equal sign (=) to signify that the field contains data and the address is geobased, as shown in the following example.



TIP

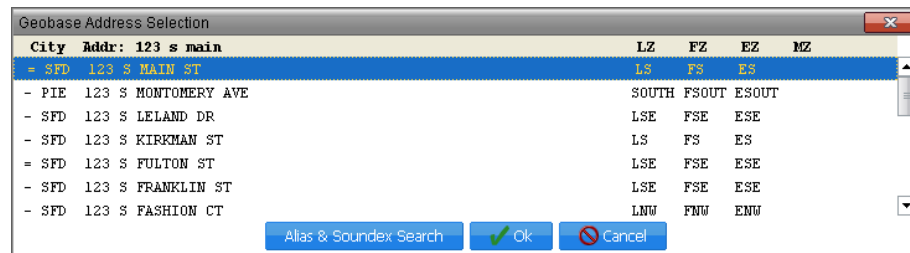
An equal sign (=) can be made to display for non-geobased addresses that have been reviewed. For example, addresses that do not belong in the geobase, such as those outside your jurisdiction. For more information, see [“Adding non-geobased addresses” on page 257](#) and [“Reviewing non-geobased addresses” on page 315](#).

If the address is not geobased and does not exist, then the **Address Indicator** field displays a colon (:) to signify that it contains no data.

Determining if an address in the Geobase Address Selection window is geobased

When an address search is performed in Spillman, the software opens the Geobase Address Selection window and displays qualifying address candidates. For geobased addresses that have been used somewhere in the database, an equal sign (=) displays next to the candidate. For non-geobased addresses that have not been used anywhere in the database, a hyphen (-) displays instead.

For example, in the following Geobase Address Selection window, the addresses 123 S Main St and 123 S Fulton St are both preceded by an equal sign (=), indicating that each is geobased and being used somewhere in the database, such as in a Law Incident record or Name record. All other address candidates are marked with a hyphen (-), indicating that they are not geobased and have not been used anywhere in the database.



For more information on how the software determines which addresses are displayed in the Geobase Address Selection window, see [“Using the Geobase Address Selection window”](#) on page 243.

NOTE

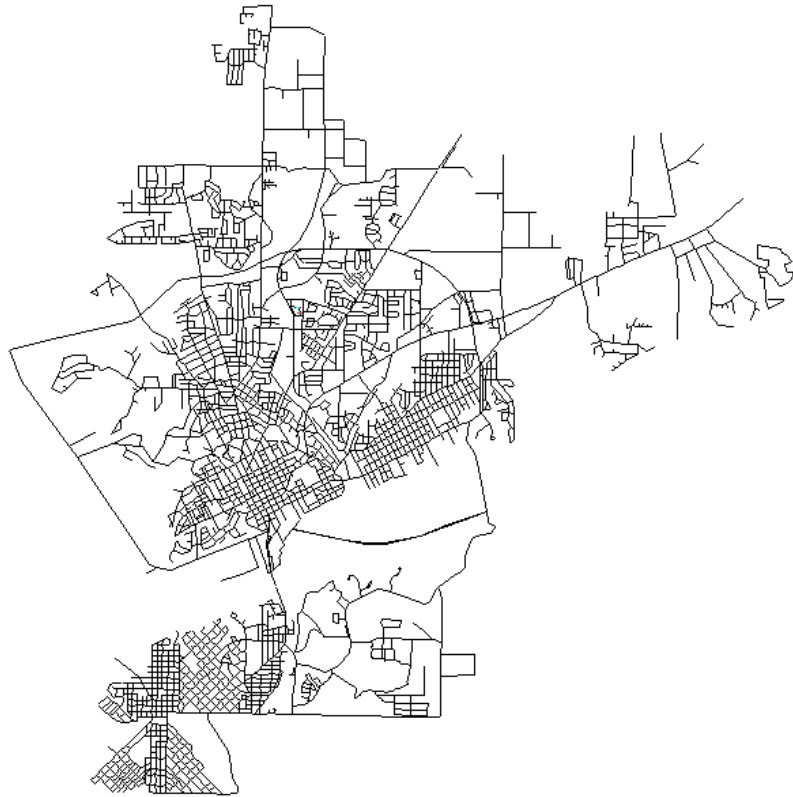
Once a dispatcher adds a call in the Computer-Aided Dispatch (CAD) module, users can verify and display additional information for the address of the call. If the `gbcross` application parameter is set to the default value of `True`, CAD users can also see the names of the cross streets on either side of the address. Cross streets appear in an unlabeled field below the address field on several CAD screens.

When transferring address layers from ArcGIS to the Geobase Address Maintenance table (`gbaddr`), the `gbcodadr` application parameter can be set so the Geobase Address Selection window displays only geobased addresses. To set the `gbcodadr` application parameter, see [“Modifying the Application Parameters for the Geobase Module”](#) on page 51.

Reviewing Setup Tasks

To build the geobase, the following setup tasks must be completed:

- “Completing the Initial Setup in Spillman” on page 35
- “Constructing the Map in ArcGIS” on page 79
 - Import street data from another source into your ArcGIS software, or use the ArcGIS drawing tools to define street segments on the geobase layer of your map, as shown in the following example.



- If importing street data, make sure it is compatible with the Spillman software, and modify the data if necessary.
- In ArcGIS, draw streets on the map’s street layer and zones on the map’s zone layers. A layer for frequented places and a layer for cities and counties can also be created. Address layers can be created using ArcGIS. For the geobase layer and zone layer, a table must be

constructed and the appropriate data entered, as shown in the following example of the geobase Attributes table for `gbstreet`.

FID	Shape	ID	DIRNUM	SIDE	ORIGIN	STSEGID	STREET	FROMLEFT	TOLEFT	FROMRIGHT	TORIGHT	Fix	LCITYCD	RCITYCD	lz_left	lz_right
0	Polyline			8	0	1	10TH AVE	101	199	100	198	PIE	PIE	PIE	CENT	CENT
1	Polyline			8	0	2	10TH AVE	201	299	200	298	PIE	PIE	PIE	CENT	CENT
2	Polyline			8	0	3	10TH AVE	301	399	300	398	PIE	PIE	PIE	CENT	CENT
3	Polyline			8	0	4	10TH AVE	401	499	400	498	PIE	PIE	PIE	CENT	CENT
4	Polyline			8	0	5	10TH AVE	601	699	600	698	PIE	PIE	PIE	SOUTH	SOUTH
5	Polyline			8	0	6	10TH AVE	701	799	700	798	PIE	PIE	PIE	SOUTH	SOUTH
6	Polyline			8	0	7	10TH AVE	801	899	800	898	PIE	PIE	PIE	SOUTH	SOUTH
7	Polyline			8	0	8	10TH AVE	901	999	900	998	PIE	PIE	PIE	SOUTH	SOUTH
8	Polyline			8	0	9	10TH ST	101	199	100	198	PIE	PIE	PIE	WEST	WEST
9	Polyline			8	0	10	10TH ST	201	299	200	298	PIE	PIE	PIE	WEST	WEST
10	Polyline			8	0	11	10TH ST	301	399	300	398	PIE	PIE	PIE	WEST	WEST
11	Polyline			8	0	12	10TH ST	401	499	400	498	PIE	PIE	PIE	WEST	WEST
12	Polyline			8	0	13	10TH ST	501	599	500	598	PIE	PIE	PIE	WEST	WEST
13	Polyline			8	0	14	11TH AVE	301	399	300	398	PIE	PIE	PIE	SOUTH	SOUTH
14	Polyline			8	0	15	11TH AVE	401	499	400	498	PIE	PIE	PIE	SOUTH	SOUTH
15	Polyline			8	0	16	11TH AVE	501	599	500	598	PIE	PIE	PIE	SOUTH	SOUTH
16	Polyline			8	0	17	11TH AVE	601	699	600	698	PIE	PIE	PIE	SOUTH	SOUTH

- To have users access the `addr` utility and the Geobase Street Segments table (`gbstreet`), the following `sypriv` entries must be added with the appropriate permissions in the User Privileges table (`sypriv`). For more information on setting up user privileges, see the *Spillman Security Setup and Maintenance Manual*.

User Privilege to add	Permission to add (as appropriate)
<code>addr</code>	Access <i>only</i>
<code>gbstreet</code>	Access, Add, Modify, and/or Delete

- “Transferring Data from ArcGIS to Spillman” on page 209

Transfer all data to the Geo database and test it. Once finished, transfer the data into the Spillman Live database. When data is transferred from ArcGIS to Spillman, the software loads information into the following Spillman tables:

- Geobase Street Segments (`gbstreet`)
- Geobase Street Names (`gbstname`)
- Alias Street Names (`gbsaka`)
- Zone Codes (`tbzones`); the Street Zone Detail window (`gbzone`)
- Geobase Address Maintenance (`gbaddr`)
- Application Parameters (`apparam`)

- “Maintaining the Geobase from ArcGIS” on page 325

chapter 2

Completing the Initial Setup in Spillman

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Setting Up Codes in the Live Database	39
Modifying the Street Part Abbreviations Table in the Live Database	42
Choosing the Central Origin Point	47
Modifying the Application Parameters for the Geobase Module	51

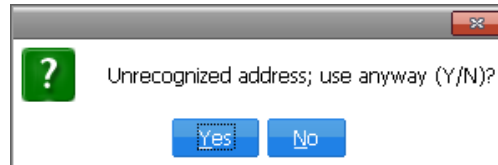
Introduction

Before building your geobase map in the ArcGIS software, the following tasks must be completed in the Spillman software:

- Logging on to the Live database and verifying the geobase feature is turned off. See [“Verifying that the Live geobase is turned off” on page 37](#).
- Setting up the agency and city codes for your jurisdiction. See [“Entering agency codes” on page 39](#) and [“Entering city codes” on page 41](#).
- Modifying the Street Part Abbreviations table (gbabbr) to include all abbreviations that might be used in street addresses. See [“Modifying the Street Part Abbreviations Table in the Live Database” on page 42](#).
- Choosing and entering the central origin point of your map. See [“Choosing the Central Origin Point” on page 47](#).
- Modifying the application parameters for the Geobase module, if necessary. Most application parameters are set correctly for your agency’s needs. See [“Modifying the Application Parameters for the Geobase Module” on page 51](#).

Preparing to Set Up Codes

Before codes can be set up, the Live geobase must be turned off. If the Spillman software tries to access the Live geobase while the geobase is being built, then each time a user enters an address not yet in the geobase, a prompt box opens with the following message: Unrecognized address; use anyway (Y/N)?



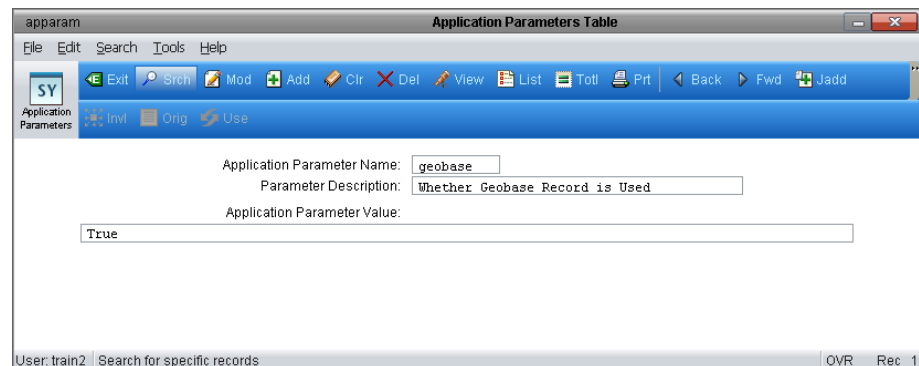
To avoid this prompt box, verify that the Live geobase is turned off.

Verifying that the Live geobase is turned off

To verify that the Live geobase is turned off:

1. Log on to the Live database.
2. At the Spillman command line, enter **apparam**.
The Application Parameters Table screen opens.
3. Click **Srch**.
4. In the **Application Parameter Name** field, enter **geobase**.
5. Click **Accept**.

The geobase application parameter record opens.



6. In the **Application Parameter Value**, if the value is set to **True**, then the geobase is *on*. To turn the geobase off, modify the value to **False**.
7. Click **Accept** to save changes.
8. Click **Exit** to close the apparam table.
9. Exit Spillman, and then restart the software to ensure the new settings are recognized in the database.

NOTE

All addresses entered by users during geobase construction will display a colon (:) in the **Address Indicator** field. When construction is complete, turn the geobase on and re-enter the addresses so the geobase recognizes them.

Setting Up Codes in the Live Database

To define codes for the agencies and cities in your jurisdiction, complete the following tasks:

- “Entering agency codes” on page 39
- “Copying agency codes to the Practice database” on page 40
- “Entering city codes” on page 41

Entering agency codes

To enter agency codes:

1. At the Spillman command line, enter **apagency**.

The Agency Codes screen opens to a blank record.

2. Click **Add**.
3. Complete the following fields for each agency being added:
 - **Agency Code:** Enter a code of up to four characters to represent the agency.
 - **Agency Description:** Enter a brief description of the agency.

- **Dispatch Agency Type:** Enter a one-character code for the type of dispatch agency, such as (1) law, (f) fire, (e) EMS, or (m) miscellaneous.
 - Complete other fields as necessary.
4. Click **Accept** to save the record.
 5. Repeat steps 2–4 for each agency in your jurisdiction.

Copying agency codes to the Practice database

To copy agency codes to the Practice database:

1. Determine the path to your Practice database:
 - From the Practice database, at the Spillman command line, enter **sh** to shell out to UNIX.
 - At the \$ prompt line, enter **echo \$FORCEDLIST** to list the directory(ies) containing your Practice data. The directory path should be similar to the following: `/sds/force/practice`
 - Write down the directory path.
2. Determine the path to your Live database:
 - Log on to the Live database.
 - At the Spillman command line, enter **sh** to shell out to UNIX.
 - At the \$ prompt line, enter **echo \$FORCEDLIST** to list the directory(ies) containing your Live data. The directory path should be similar to the following: `/sds/force/dat`
 - Write down the directory path.
3. Copy the `.dat` files from the Live database to the Practice database. For example, to copy the `.dat` files from `/sds/force/dat` to `/sds/force/practice`, enter the following:

```
cp /sds/force/dat/apagency.dat /sds/force/practice/
apagency.dat
```

4. Copy the `.idx` files from the Live database to the Practice database. For example, to copy the `.idx` files from `/sds/force/practice` to `/sds/force/dat`, enter the following:

```
cp /sds/force/dat/apagency.idx /sds/force/practice/
apagency.idx
```

For help with performing these steps, contact a Spillman Customer Support technician.

Entering city codes

To enter city codes:

1. In the Live database, at the Spillman command line, enter **apcity**.

The City Codes screen opens.

2. Click **Add**.
3. Complete the following fields for each city added:
 - **City Code**: Enter the city code up to three characters.
 - **City**: Enter the name of the city.
 - **State**: Select the state of the city.
 - **ZIP Code**: Enter the zip code of the city.

If the city uses more than one ZIP Code, a separate city code can be specified for each ZIP Code. If a separate city code *is* specified for each ZIP Code, then use the appropriate city code when entering information for each street in your ArcGIS software.

NOTE

If there is more than one ZIP Code in your city and your agency decides *not* to use separate city codes for each ZIP Code, then leave the **ZIP Code** field blank. When entering a geobased address in the Spillman system, the **City**, **State**, and **ZIP Code** fields are automatically populated with information from the **apcity** table. Leaving the **ZIP Code** field blank in this situation prevents the software from populating records with inaccurate information.

- **Mileage to City**: Enter a value in this field only if your agency uses the Spillman Civil Process module.
4. Click **Accept**.
 5. Repeat steps 2–4 for each city in your jurisdiction.

Modifying the Street Part Abbreviations Table in the Live Database

Streets are created by transferring street information from your ArcGIS software into the Geobase Street Segments table (`gbstreet`) in Spillman. When that street information is transferred, the Spillman software uses abbreviations entered in the Street Part Abbreviations table (`gbabbr`). Therefore, it is important to modify the `gbabbr` table to include all the abbreviations users might use in street addresses *before* entering street names in your GIS software. For examples of abbreviations already entered in the `gbabbr` table, see [“Example Abbreviations” on page 342](#).

Carefully consider what abbreviations to use to avoid changing them later. If an abbreviation is changed *after* streets are created, then *every street name* that uses that abbreviation must be changed. In addition, duplicate records might be created for the same street address.

NOTE

The Street Part Abbreviations table (`gbabbr`) may contain default codes. Review these codes before making changes. If necessary, they can be added, modified, or deleted to meet your agency's needs.

To modify the Street Part Abbreviations table (`gbabbr`):

1. List all abbreviations on paper. Up to 15 alphanumeric characters are allowed, but *no punctuation*.

Include abbreviations for the following:

- Directions. For example, N and No for North.
- Street types. For example, BL and Blvd for Boulevard.
- Words or symbols that might be used in intersection names. For example, an ampersand (&).

For information on other frequently abbreviated words, see [“Example Abbreviations” on page 342](#).

2. For each word listed, mark the preferred abbreviation to be entered and displayed on a screen, and then list all alternate abbreviations users might enter for that word.

TIP

Preferred abbreviations need not be abbreviations at all. For example, `Street` can be used as a preferred abbreviation.

3. At the Spillman command line, enter `gbabbr`.

The Street Part Abbreviations screen opens.

4. Refer to your list of abbreviations, and use the **Mod** and **Add** buttons as needed to create your list in Spillman.

For each abbreviation, do the following:

- In the **Preferred abbreviation** field, enter the preferred abbreviation. For example, **North**.
- In the **Alternate abbreviation** field, enter the alternate abbreviation. For example, **N**. Leave out punctuation marks. All entries will be forced to uppercase.
- In the **Translate to preferred form?** field, determine whether the software should automatically translate each alternate

abbreviation to the preferred abbreviation. Enter **Y** or **N**, using the following table as a guide.

If the following is entered	Then
Y – to translate the alternate abbreviation to the preferred abbreviation	<p>The alternate abbreviation must <i>not</i> be used when streets are drawn in your ArcGIS software. The Spillman software recognizes only the preferred abbreviation. If the alternate abbreviation is used, then the Spillman software cannot find the street. Therefore, make sure of the following:</p> <ul style="list-style-type: none"> The abbreviations used in your ArcGIS software match the abbreviations set up in the <code>gbabbr</code> table. If there are problems with abbreviations in your GIS software, refer to the reference guide of the GIS software being used. Before transferring data from your ArcGIS software to the Spillman software, find all abbreviations to have in their preferred forms and change them to their preferred forms. Otherwise, if Y is entered and the preferred abbreviation is changed <i>after</i> streets are added, then any street names affected by the change need to be re-entered. For information, see “Modifying abbreviations” on page 307. To change a street name, Super User (su) privileges are required. For information, see “Modifying street names” on page 314.
N – to <i>not</i> translate the alternate abbreviation to the preferred abbreviation	<p>The alternate abbreviation can usually be used when streets are drawn in your GIS software. For example, if a <code>gbabbr</code> record were added with the following values:</p> <ul style="list-style-type: none"> Preferred abbreviation: North Alternate abbreviation: N Translate to preferred form?: N <p>Then either N Main or North Main could be entered in your GIS software. Be aware, entering N will double the search time because the software must search for street names that contain the alternate abbreviation in addition to street names that contain the preferred abbreviation. For example, if the preceding <code>gbabbr</code> values are used, and a user searches for 100 N Main, then the software must search for 100 North Main <i>and</i> 100 N Main to find the matching address(es).</p>

Note the following restrictions on abbreviations:

- Do not force the abbreviation of an ampersand (&) to a preferred abbreviation. The software recognizes intersection names by the ampersand. For example, North Main & East Center. If the ampersand (&) is forced to something else, the software cannot recognize intersections.

To use the word AND or a different symbol, such as a slash (/) or apostrophe ('), in place of the ampersand (&) in intersection names, create a `gbabbr` record with field values similar to the following:

- **Preferred abbreviation:** &
- **Alternate abbreviation:** AND
- **Translate to preferred form?:** Y

The software automatically translates any alternate abbreviation for the ampersand into an ampersand, even if **N** is entered in the **Translate to preferred form** field.

After creating a similar **gbabbr** record, use the alternate abbreviation only in intersection names. If the alternate abbreviation is used in a street name, then the software forces the alternate abbreviation to an ampersand (&) and interprets the street name as an intersection name.

- Abbreviations cannot be reflexive. For example, if **Dr** is added as an alternate abbreviation for **Drive**, do not add **Drive** as an alternate abbreviation for **Dr**.
 - Abbreviations cannot be transitive. For example, if **Ave** is added as an alternate abbreviation for **Avenue**, do not add **Av** as an alternate abbreviation for **Ave**. However, **Av** can be added as an alternate abbreviation for **Avenue**.
 - Do not use numerals as abbreviations for streets. For example, do not use **12** as an abbreviation for **12th**.
5. Repeat step 4 for each possible alternate abbreviation of the word. For example, for the preferred abbreviation **North**, two records might be created. One record using the alternate abbreviation **N**, and another using the alternate abbreviation **NO**.
 6. Double-check preferred abbreviations for accuracy. Use the **Srch**, **Fwd**, and **Back** buttons as necessary to view **gbabbr** records. If abbreviations require changes, use the **Mod** button.

Copying abbreviations to the Practice database

To copy abbreviations to the Practice database:

1. Determine the path to your Practice database:
 - From the Practice database, at the Spillman command line, enter **sh** to shell out to UNIX.
 - At the **\$** prompt line, enter **echo \$FORCEDLIST** to list the directory(ies) containing your Practice data. The directory path should be similar to the following: **/sds/force/practice**
 - Write down the directory path.
2. Determine the path to your Live database:
 - Log on to the Live database.
 - At the Spillman command line, enter **sh** to shell out to UNIX.

- At the \$ prompt line, enter **echo \$FORCEDLIST** to list the directory(ies) containing your Live data. The directory path should be similar to the following: `/sds/force/dat`
 - Write down the directory path.
3. Copy the `.dat` files from the Live database to the Practice database. For example, to copy the `.dat` files from `/sds/force/dat` to `/sds/force/practice`, enter the following:

```
cp /sds/force/dat/gbabbr.dat /sds/force/practice/gbabbr.dat
```
 4. Copy the `.idx` files from the Live database to the Practice database. For example, to copy the `.idx` files from `/sds/force/practice` to `/sds/force/dat`, enter the following:

```
cp /sds/force/practice/gbabbr.idx /sds/force/dat/gbabbr.idx
```

For help with performing these steps, contact a Spillman Customer Support technician.

Choosing the Central Origin Point

In the geobase, all locations are relative to a central origin point of 0, 0. To choose the central origin point for your agency's geobase, do the following:

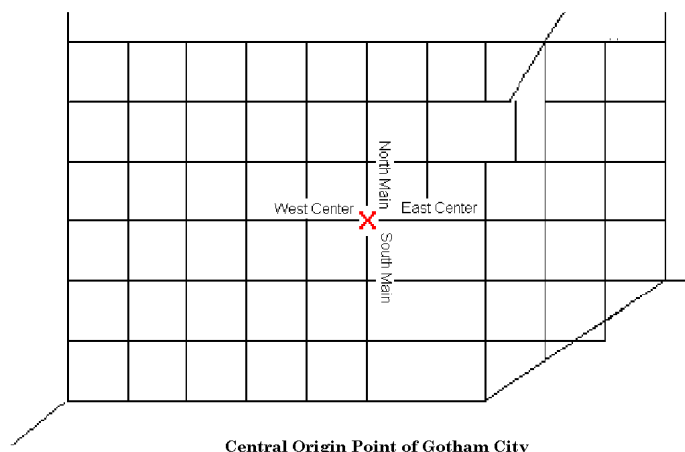
- “Determining the central origin point” on page 47
- “Entering the central origin point” on page 48
- “Copying origin codes to the Practice database” on page 49
- “Restoring default information to the Practice database” on page 50

Determining the central origin point

If your street data is imported, or another means is used to obtain the position of each street segment in degrees latitude and longitude, then the location of the central origin point does not need to be specified. Instead, enter the central origin point as 0, 0. For more information, see [“Entering the central origin point” on page 48](#).

If your agency does not use latitude and longitude to designate locations, then select a street address, mile marker, or focal point, such as the dispatch center, to be the central origin point on which all x-, y-coordinates will be based. Enter this location as 0, 0. For more information, see [“Entering the central origin point” on page 48](#).

For example, in the following map, the central origin point is the intersection of North Main & East Center. All coordinates and street addresses in the city are relative to this point.



Entering the central origin point

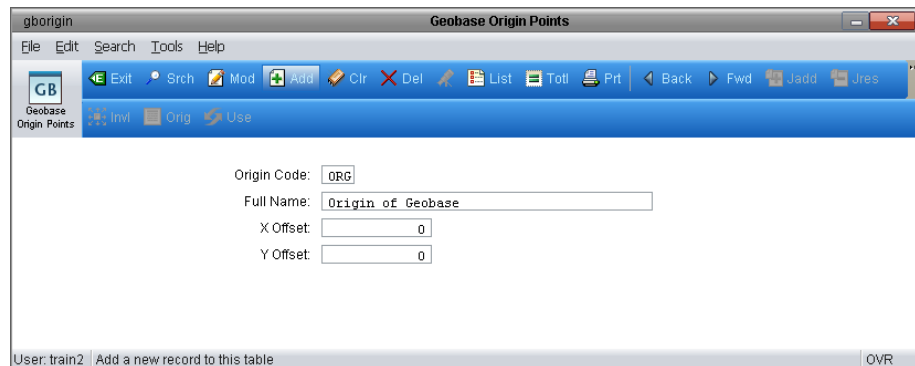
Before entering the central origin point of your map into the Spillman software, make sure to be logged on to the Practice database and that the geobase feature is turned off. For more information, see [“Verifying that the Live geobase is turned off” on page 37](#).

To enter the central origin point into the Spillman software:

1. At the Spillman command line, enter **gborigin**.
The Geobase Origin Points screen opens.
2. Click **Add**.
3. In the **Origin Code** field, enter a code of up to three characters for the origin point. This field is indexed and used by other tables in the geobase.
4. In the **Full Name** field, if a location is to be the central origin point, enter the full name of the city containing the origin point. Up to 30 characters are allowed.
 - If desired, enter a brief description following the city name, such as **Garland City: Main & Center**, as shown in the following example.

The screenshot shows the 'gborigin' window titled 'Geobase Origin Points'. It features a menu bar (File, Edit, Search, Tools, Help) and a toolbar with icons for Exit, Search, Modify, Add, Clear, Delete, List, Table, Print, Back, Forward, Jadd, and Jres. Below the toolbar is a sub-toolbar with buttons for Invl, Orig, and Use. The main area contains four input fields: 'Origin Code' with the value 'GC', 'Full Name' with the value 'Garland City: Main & Center', 'X Offset' with the value '0', and 'Y Offset' with the value '0'. At the bottom, a status bar shows 'User: train2 | Add a new record to this table' and 'OVR'.

- If the data is in latitude and longitude, a reminder can be included, such as **Origin of Geobase**, as shown in the following example.



5. In the **X offset** field, enter 0.
6. In the **Y offset** field, enter 0.
7. Click **Accept**.

Copying origin codes to the Practice database

To copy origin codes to the Practice database:

1. Determine the path to your Practice database:
 - From the Practice database, at the Spillman command line, enter **sh** to shell out to UNIX.
 - At the \$ prompt line, enter **echo \$FORCEDLIST** to list the directory(ies) containing your Practice data. The directory path should be similar to the following: `/sds/force/practice`
 - Write down the directory path.
2. Determine the path to your Live database:
 - Log on to the Live database.
 - At the Spillman command line, enter **sh** to shell out to UNIX.
 - At the \$ prompt line, enter **echo \$FORCEDLIST** to list the directory(ies) containing your Live data. The directory path should be similar to the following: `/sds/force/dat`
 - Write down the directory path.

3. Copy the .dat files from the Live database to the Practice database. For example, to copy the .dat files from /sds/force/dat to /sds/force/practice, enter the following:

```
cp /sds/force/dat/gborigin.dat /sds/force/practice/gborigin.dat
```

4. Copy the .idx files from the Live database to the Practice database. For example, to copy the .idx files from /sds/force/practice to /sds/force/dat, enter the following:

```
cp /sds/force/dat/gborigin.idx /sds/force/practice/gborigin.idx
```

For help with performing these steps, contact a Spillman Customer Support technician.

Restoring default information to the Practice database

When Spillman is installed at your agency, a Practice database containing sample records is included. When the geobase is turned off and the apagency, apcity, gbabbr, and gborigin codes are added to the Practice database, the default Practice database is replaced with the new information entered.

If for any reason the default information must be restored in the Practice database, run cleantrain. For instructions on how to clean the Practice database, see “Cleaning the Practice Database” in the *Spillman Application Setup and Maintenance Manual*.

To copy information from your Live database to your Practice database after the default data is restored, the apagency, apcity, gbabbr, and gborigin tables must be re-copied from your Live database to your Practice database.

Modifying the Application Parameters for the Geobase Module

The default settings set by the Spillman installer during installation should be correct for most of your agency's needs. However, if a parameter listed in this section needs to be changed, modify it in the Application Parameters table (apparam).

Application parameters can be modified at any time. For example, `gbcrstol` can be modified after streets are created in the geobase.

NOTE

Always have users exit (log off) the Spillman software after modifying application parameters. Exiting the software ensures it will recognize the modifications when users log on again.

The following table lists application parameters that affect the geobase.

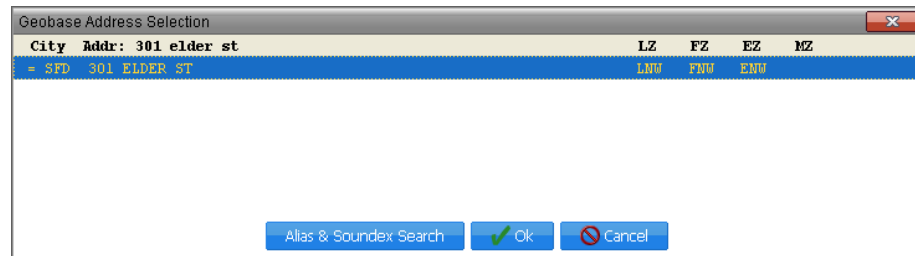
Application parameters	
<code>gbaselzn</code> . See page 52 .	<code>gbprefix</code> . See page 69 .
<code>gbcodadr</code> . See page 52 .	<code>gbrelxy</code> . See page 69 .
<code>gbcross</code> . See page 53 .	<code>gbsfact</code> . See page 70 .
<code>gbcrstol</code> . See page 54 .	<code>gbxfact</code> . See page 70 .
<code>gbcrstim</code> . See page 55 .	<code>gbyfact</code> . See page 70 .
<code>gbintum</code> . See page 56 .	<code>geobase</code> . See page 70 .
<code>gbintord</code> . See page 56 .	<code>geoconvt</code> . See page 71 .
<code>gbamint</code> . See page 59 .	<code>geodist</code> . See page 72 .
<code>gblogpth</code> . See page 66 .	<code>geolat</code> . See page 72 .
<code>gbminaka</code> and <code>gbminloc</code> . See page 67 .	<code>geonrang</code> . See page 73 .
<code>gbminsnd</code> . See page 68 .	<code>geoxshft</code> . See page 74 .
<code>gbminspl</code> . See page 69 .	<code>georintr</code> . See page 74 .
<code>gbmxstsl</code> . See page 69 .	<code>geosistr</code> . See page 74 .

For other application parameters, see “Related application parameters” on [page 75](#).

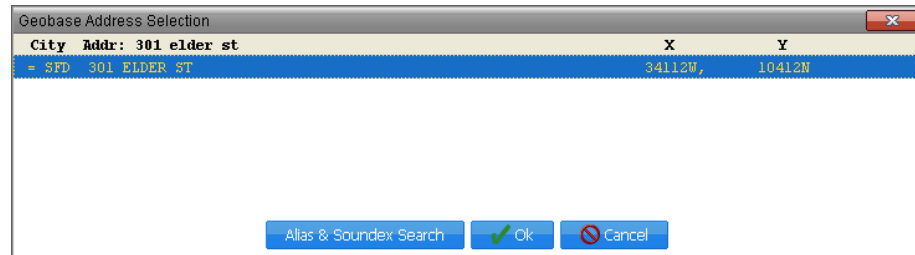
Using gbaselzn to display dispatch zones in the Geobase Address Selection window

Use gbaselzn to determine whether dispatch zones (LZ, FZ, EZ, and MZ) or x-, y-coordinates will display in the Geobase Address Selection window.

To display dispatch zones, as shown in the following Geobase Address Selection window, set gbaselzn to **True**, **Yes**, or **1** in the Application Parameters table (apparam).



To display x- and y-coordinates, as shown in the following Geobase Address Selection window, set gbaselzn to the default value of **False**, **No**, or **0**.



Using gbcodadr to control how non-geocoded addresses are processed

Use gbcodadr to control how the software processes non-geocoded addresses. The valid field values are blank, Ask, Use, or Res (restrict).

Use the following table to determine which field value to use.

Application Parameter Value	Description
Blank	If a value is not specified, and a user selects a non-geocoded address in the Geobase Address Selection window, then the software geocodes the selected address.
Ask	If <code>gbcodadr</code> is set to Ask , and a user selects a non-geocoded address in the Geobase Address Selection window, then the software displays the following message: Unrecognized Address: Geocode, Use anyway, or Re-enter address (G/U/R)? <U> The default response is U.
Use	If <code>gbcodadr</code> is set to Use , and a user selects a non-geocoded address in the Geobase Address Selection window, then the software displays the following message: Unrecognized address; use anyway (Y/N)? <Y> If Y is selected, then the software adds the address to the record, but does not geocode the address.
Res	If <code>gbcodadr</code> is set to Res , then the software displays only geocoded addresses in the Geobase Address Selection window.

Using `gbcross` to determine if the software displays cross streets

Use `gbcross` to turn the display of cross streets on and off in the following Computer-Aided Dispatch (CAD) screens:

- Add Call (`ac`)
- Calls Taker's (`calls` or `ca`)
- Dispatch Units (`du` or `dc`)
- Dispatch Wrecker (`dw` or `dwc`)
- E911 Interface (`e911`)
- Modify Call (`mc`)
- Display Call Information (`ci`)

The `gbcross` application parameter can also be used to turn the display of cross streets on and off in the Geobase Address Maintenance screen (`gbaddr`) and the Geobase Address SAA Backdoor table (`gbaddrx`). The valid settings are `True` and `False`, with the default setting as **True**.

If `gbcross` and `geobase` are both set to **True**, and the dispatcher enters an address in any affected CAD screen, then the cross streets on either side of that address display in an unlabeled field below the **Address** (or **Addr**) field. Note the following results:

- If the software finds both cross streets, then the screen displays information in the following format:
 Between: First Street & Second Street
- If the software cannot find a cross street, then the screen displays <Not found> in place of the street name in the following format:
 Between: <Not found> & Washington Avenue
- If the address is at an intersection, then the screen displays information in the following format:

Intersection of: First Street & Lincoln Avenue

If a street changes names at a particular point, such as First Street becomes Campus Drive near a university campus, then the geobase considers the segment with the different name to be a cross street.

Using `gbcrstol` to determine the distance between crossing streets

Use `gbcrstol` to specify how close the end point of a line at an intersection can lie to another line before the software considers them to be intersecting.

When defining the field value, enter it in units, using the same units specified when defining the x-, y- coordinate system. The default value is 5.

For example, if 10 is entered, then two streets that are 11 units apart are not considered to intersect, but two streets that are 5 units apart are considered to intersect, even if they do not actually meet.

For example, if longitude and latitude are used, and the desired distance is 33 feet, then do one of the following:

- If the scaling factor (`gbsfact`) is set to 1000000, then set `gbcrstol` to 90.
- If the scaling factor (`gbsfact`) is set to 100000, then set `gbcrstol` to 9.

For more information about `gbsfact`, see [“Using `gbsfact` to determine the scaling factor for your map” on page 70](#).

Using *gbcrstim* to determine the maximum wait time for cross street searches

Use *gbcrstim* to specify the maximum amount of time the software should wait for a cross street search to finish. If the cross street is not found within the allotted time, no results are displayed on the screen.

To set up *gbcrstim*:

1. At the Spillman command line, enter **apparam**.
The Application Parameters Table opens.
2. Search for the *gbcrstim* record. If none exists, create one by clicking **Add**.
3. Enter information for the following fields:
 - In the **Application Parameter Name** field, enter **gbcrstim**.
 - In the **Parameter Description** field, enter **Cross Street Timeout (secs)**.
 - In the **Application Parameter Value** field, enter the maximum amount of time (in seconds) for the software to wait for a cross street search to finish. For example, if the maximum wait time is five seconds, then **5** would be entered.

NOTE

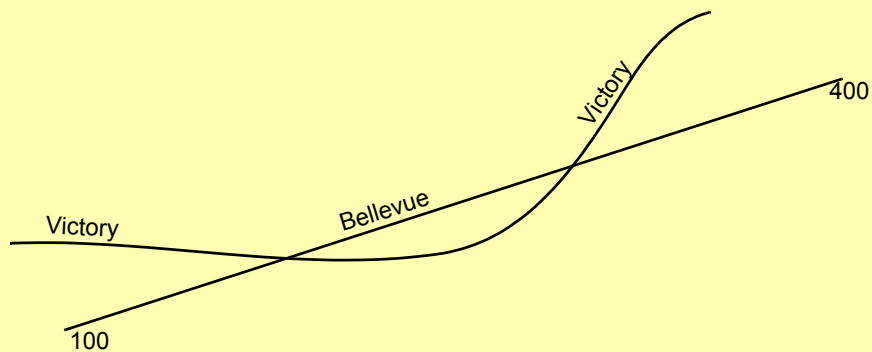
The minimum value allowed for the maximum wait time is 1 second. If 0 or a negative number is entered as the wait time value, then the software defaults to 1. Also, if the *gbcrstim* parameter is not defined or has a blank value, then the software defaults to three seconds as the maximum wait time for a cross street search to finish.

Using gbintnum to determine if intersection house numbers display

Use `gbintnum` to specify whether the house numbers of intersections are displayed. To display the house numbers of intersections, set `gbintnum` to **1**, **True**, or **Yes**. The default value is **True**. To *not* display the house numbers of intersections, set `gbintnum` to **0**, **False**, or **No**.

CAUTION

If the house numbers of intersections are not displayed, and a street intersects another street more than once, it cannot be determined which intersection is the correct address. For example, in the following map, it is unknown whether Bellevue Boulevard & Victory Road refers to the intersection at 200 Bellevue Boulevard or 300 Bellevue Boulevard.



Using gbintord to determine how intersection street names are displayed

Use `gbintord` to determine whether intersecting street names will display in the order they are entered. Be aware, if this intersection display method is used, then your agency's database may contain the same intersection twice. For example, Chilton Ave & Baldwin St and Baldwin St & Chilton Ave.

Use `gbintord` to do the following:

- "Pinpointing intersection locations" on page 57
- "Limiting intersection records" on page 57
- "Improving zone selection" on page 57

To modify `gbintord`, see page 58.

Pinpointing intersection locations

With `gbintord`, the location of incidents that occur at intersections can be better pinpointed, as illustrated by the following examples:

- To specify a traffic accident that occurred on Chilton Ave, 50 yards east of Baldwin St, enter **Chilton Ave & Baldwin St; 50 yds E.**
- To specify an accident that occurred on Baldwin St, 100 yards north of Chilton Ave, enter **Baldwin St & Chilton Ave; 100 yds N.**

Refer to your agency's policy for entering address information when specifying locations in this manner.

Limiting intersection records

With `gbintord`, an intersection search can be limited to records that contain the intersection name exactly as it is entered. For example, entering ***Chilton Ave & Baldwin St*** limits the search set to those records that list the intersection as Chilton Ave & Baldwin St. The search set does not include records that list the intersection as Baldwin St & Chilton Ave.

NOTE

By using the asterisk (*) wildcard character, a text-based search is performed instead of a search of the geobase.

With this intersection display method, it is easier to find the correct address in the Geobase Address Selection window, as the window displays the street names in the order they were entered. This can be particularly helpful when soundex (phonetic spelling) and alias matches are displayed.

Improving zone selection

Zone selection for intersections depends on which intersection display method is used:

- If intersection street names are displayed in the order they were entered, then the zone is based on the first street entered in the intersection name.
- If intersection street names are displayed in the order they were *first* entered, then the zone is based on the first street entered in the first entry of the intersection name.

To display intersection street names in the order they are entered by users, rather than in the order they are first entered into the database, modify the setting of the `gbintord` application parameter.

To modify gbintord:

1. At the Spillman command line, enter **apparam**.
The Application Parameters Table screen opens.
2. Click **Srch**.
3. In the **Application Parameter Name** field, enter **gbintord**.

The gbintord applications parameter record opens.

4. In the **Application Parameter Value** field, modify the value to **False**.
5. Click **Accept**.

The Geobase Address Maintenance table (gbaddr) stores only one record for each intersection. For example, if the following gbaddr record exists, then the software does not create another gbaddr record when a user enters **Huntsville Rd & Aspen Ave** into the database.

The screenshot shows the 'Geobase Address Maintenance' window. The 'Address' section contains the following data:

Address ID:	481		
Prefix:		Suffix:	
House #:	145	Pre-Directional:	
Pre-Type:		Post-Directional:	
Street Name:	N FULTON ST		
Full Street:	N FULTON ST		
Post-Type:		Occupancy Value:	
Occupancy Type:			
Cross Street:			
Intersection:			
City:	SFD Springfield	State:	ND
User-Defined XY:	N	ZIP:	79134
Coordinates:X:	11588	High Bits:	5
		Y:	4445

Between: ASPEN AVE & HUNTSVILLE RD

The 'Directions' section has a text box for 'Directions' and a label '(Only 1 or 2 lines below will be seen in CAD)'. Below it is a 'Location' text box.

The 'Alerts' section has a table with columns 'Address Alerts', 'Code', 'Date', and 'Review Date'. The 'Address Alerts' column has a dropdown menu.

At the bottom, it says 'User: train2 | Modify the current record' and 'OVR'.

Using gbamint to create multiple Address IDs for an intersection

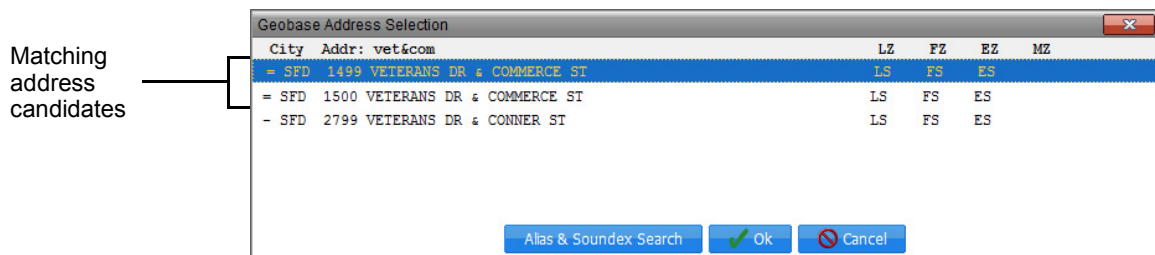
The geobase usually assigns and maintains one gbaddr ID per address or intersection. However, agencies may want to assign multiple Address IDs for the same intersection, as illustrated in the following examples:

- **Zones.** An agency wants to control the zone definitions of an intersection whose address lies in two different zones. Two Address IDs could be assigned to the same location with different zones defined.
- **Corners.** An agency wants to identify each corner of an intersection separately to isolate an incident that occurred at one of the corners. An Address ID could be assigned to each corner.

The gbamint parameter allows agencies to create multiple Address IDs for the same spatial location (the x- and y- coordinates of an intersection).

When multiple Address IDs are created for an intersection, a corresponding gbaddr record is created for each Address ID. In the gbaddr record, information is altered or added to distinguish the new record from other Address IDs associated with the intersection. The information entered in the gbaddr record of each Address ID determines what displays in the Geobase Address Selection window for matching address candidates.

For example, if two Address IDs are created for the intersection vet & com, where only the house number is altered, then the Geobase Address Selection window displays the matching candidates with the same intersecting streets and x-, y-coordinates, as shown in the following example.



However, if numerous Address IDs are created with different gbaddr field values for one intersection location, then it may be difficult to decide which matching address candidate is correct.

In addition, be aware of how other application parameter settings affect the Geobase Address Selection window, such as gbintnum on [page 56](#) and gbintord on [page 56](#).

For example, if `gbintnum` is set to **False**, then intersection house numbers do not display, making it difficult to quickly differentiate between similar matching candidates.

Matching
address
candidates

The screenshot shows the 'Geobase Address Selection' window. It has a table with columns: City, Addr, LZ, FZ, EZ, MZ. The first row is highlighted in blue and contains: SFD, VETERANS DR & COMMERCE ST, LS, FS, ES. The second row contains: SFD, VETERANS DR & COMMERCE ST, LS, FS, ES. The third row contains: SFD, VETERANS DR & CONNER ST, LS, FS, ES. At the bottom, there are three buttons: 'Alias & Soundex Search', 'Ok', and 'Cancel'.

City	Addr	LZ	FZ	EZ	MZ
SFD	VETERANS DR & COMMERCE ST	LS	FS	ES	
SFD	VETERANS DR & COMMERCE ST	LS	FS	ES	
SFD	VETERANS DR & CONNER ST	LS	FS	ES	

When an address candidate is selected and the Address Information screen opens, other matching candidates that have the same intersection location display in the **Nearby Addresses** area with the distance of 0, as shown in the following example.

The screenshot shows the 'Address Information' window. It has fields for Address (1499 VETERANS DR), Cross Streets (Intersection of VETERANS & COMMERCE), City (SFD), Zip, Longitude (-87.655), Latitude (34.801900), and Address Record # (284). There is a 'Map' button. Below these fields is a 'Zones' section with a table for Dispatch Zone, Reporting Area, Response Zone, and Street Zone. The table has rows for Law, Fire, EMS, and Misc. The 'Nearby Addresses (2)' section shows a list of addresses within 50 yards: 1499 VETERANS DR and 1500 VETERANS DR, both with a distance of 0 yards.

	Dispatch Zone	Reporting Area	Response Zone	Street Zone
Law:	LS	LS		
Fire:	FS	FS		
EMS:	ES	ES		
Misc:				

If each candidate is clicked to view information for that intersection record, then the **Address Record #** field changes to display each candidate's Address ID. The following example shows the intersection of 1500 Veterans Dr to have the same x- and y- coordinates as the intersection of 1499 Veterans Dr, but with the Address ID of 278.

The screenshot shows the 'Address Information' window. It has fields for Address (1500 VETERANS DR), Cross Streets (Intersection of VETERANS & COMMERCE), City (SFD), Zip, Longitude (-87.655), Latitude (34.801900), and Address Record # (278). There is a 'Map' button. Below these fields is a 'Zones' section with a table for Dispatch Zone, Reporting Area, Response Zone, and Street Zone. The table has rows for Law, Fire, EMS, and Misc. The 'Nearby Addresses (2)' section shows a list of addresses within 50 yards: 1499 VETERANS DR and 1500 VETERANS DR, both with a distance of 0 yards.

	Dispatch Zone	Reporting Area	Response Zone	Street Zone
Law:	LS	LS		
Fire:	FS	FS		
EMS:	ES	ES		
Misc:				

To view a list of all Address IDs associated with one intersection, and to compare records, use the `gbaddr` table.

Viewing multiple Address IDs for one intersection in the *gbaddr* table

To see the Address ID of each candidate associated with an intersection:

1. At the Spillman command line, enter **gbaddr**.
The Geobase Address Maintenance screen opens.
2. Click **Srch**.
3. In the **Suffix** field, enter a space followed by an ampersand (**&**) to restrict the search to only intersections.
4. In the **X** and **Y** fields, use a **Between** search to enter values that will cover the range of the desired intersection area.
5. Click **Accept**.
6. To list all *gbaddr* intersection records within the specified range, click **List**.
A detail window opens.
7. Scroll down or toggle the page to view the different Address IDs associated with the intersection location.

Setting up *gbamint*

To set up *gbamint*:

1. At the Spillman command line, enter **apparam**.
The Application Parameters Table screen opens.
2. Search for the *gbamint* record. If the record does not exist, then create it by clicking **Add**.
3. Enter information for the following fields:
 - In the **Application Parameter Name** field, enter **gbamint**.
 - In the **Parameter Description** field, enter **Allow Multiple Intersections**.
 - In the **Application Parameter Value** field, enter **True**. If the record already exists, the default value may be set to **False**. Modify the value to **True** to turn on the parameter.
4. Click **Accept**.
5. Click **Exit** to close the *apparam* table.
6. Exit Spillman, and then reopen the software to ensure the database incorporates the new parameter setting.

Manually adding a gbaddr record for an intersection

To create multiple Address IDs for an intersection, a corresponding gbaddr record must be manually added.

To manually add a corresponding gbaddr record:

1. At the Spillman command line, enter **gbaddrx**.

The Geobase Address SAA Backdoor screen opens.

The screenshot shows the 'Geobase Address SAA Backdoor' application window. The window title is 'gbaddrx'. The menu bar includes 'File', 'Edit', 'Search', 'Tools', and 'Help'. The toolbar contains icons for 'Exit', 'Search', 'Mod', 'Add', 'Clr', 'Del', 'View', 'List', 'Totl', 'Pnt', 'Back', 'Fwd', and 'Jadd'. Below the toolbar is a blue bar with icons for 'Invl', 'Orig', 'Use', and 'ReAddr'. The main area is divided into three sections: 'Address', 'Directions', and 'Alerts'. The 'Address' section contains fields for 'Address ID', 'Prefix', 'House #', 'Pre-Type', 'Suffix', 'Pre-Directional', 'Street Name', 'Full Street', 'Post-Type', 'Post-Directional', 'Occupancy Type', 'Occupancy Value', 'Cross Street', 'Intersection', 'City', 'State', 'User-Defined XY', 'Coordinates: X', 'High Bits', and 'Y'. The 'Directions' section has fields for 'Directions' and 'Location'. The 'Alerts' section has a table with columns for 'Address Alerts', 'Code', 'Date', and 'Review Date'. At the bottom, there is a status bar showing 'User: sds' and 'Search for specific records'.

2. Search for and open the gbaddr record to create multiple Address IDs from. Make sure the intersection gbaddr record has an Address ID. For more information, see [“Determining if an Address is Geobased”](#) on page 30.

The following example shows the gbaddrx record for the intersection 1499 Veterans Dr & Commerce St.

The screenshot shows the 'gbaddrx' application window titled 'Geobase Address SAA Backdoor'. The interface includes a menu bar (File, Edit, Search, Tools, Help) and a toolbar with various icons. Below the toolbar is a status bar showing 'User: sds' and 'Search for specific records'. The main form is divided into several sections:

- Address Section:** Contains fields for Address ID (284), Prefix, House # (1499), Suffix (&), Pre-Type, Pre-Directional, Street Name, Full Street (VETERANS DR), Post-Type, Post-Directional, Occupancy Type, Occupancy Value, Cross Street (COMMERCE ST), Intersection, City (SFD Springfield), State (MD), User-Defined XY (N), Coordinates: X (-11412), High Bits (-6), and Y (-14388). A summary line at the bottom of this section reads 'Intersection of: VETERANS DR & COMMERCE ST'.
- Directions Section:** Includes fields for Directions (with a note: '(Only 1 or 2 lines below will be seen in CAD)') and Location.
- Alerts Section:** Includes a table with columns 'Address Alerts: Code', 'Date', and 'Review Date'. The 'Code' field is currently empty.

At the bottom right of the window, there is a status bar showing 'OVR' and 'Rec 1'.

NOTE

To be identified as an intersection, addresses must have the following in their gbaddr record:

- The **Suffix** field value of a space followed by an ampersand (&)
- The **Cross Street** field completed

3. To create a copy of the record and modify specific field information, press A+Spacebar.

All fields become numbered, and the Change field dialog box opens.

The screenshot shows the 'gbaddrx' application window titled 'Geobase Address SAA Backdoor'. It features a menu bar (File, Edit, Search, Tools, Help) and a toolbar with 'Accept', 'Cancel', and 'Previous' buttons. A search bar is located at the top right. The main form is divided into three sections: 'Address', 'Directions', and 'Alerts'. The 'Address' section contains 26 numbered fields: Address ID (1), Prefix (2), House # (3), Pre-Type (4), Street Name (5), Full Street (6), Post-Type (7), Occupancy Type (8), Cross Street (9), Intersection (10), City (11), User-Defined XY (12), Coordinates: X (13), High Bits (14), Y (15), State (16), and a text field for the intersection (17). The 'Directions' section has two fields: Directions (18) and Location (19). The 'Alerts' section has a table with columns for Code, Date, and Review Date. A 'Change field' dialog box is open, showing a list of fields to choose from. The status bar at the bottom indicates 'User: sds' and 'Change field:'. The bottom right corner shows 'OVR Rec 1'.

NOTE

The database requires that the following `gbaddr` fields be unique as a combined value: **Prefix**, **House #**, **Full Street**, and **City**. To create a new intersection `gbaddr` record with a new Address ID, at least one of these fields must be different than the currently existing record. The reason for creating an additional Address ID to an intersection will determine what field information is modified or added to the new intersection `gbaddr` record.

4. In the dialog box, enter one of the following field numbers whose information needs to change:

- **Prefix**
- **House #**
- **Full Street**
- **City**

The following fields are optional, but significant when used, as the values entered display in the Geobase Address Selection window:

- **Intersection:** Used to designate information relevant to the intersection, such as another name. For example, if a corner of the intersection `vet & com` is more commonly known as `A & B`, and

that value is entered in this field, then it displays in place of the **Prefix**, **House #**, **Full Street**, and **Cross Street** field values, as shown in the following Geobase Address Selection window.

City	Addr: vet & com	LZ	FZ	EZ	MZ
= SFD	1499 VETERANS DR & COMMERCE ST	LS	FS	ES	
= SFD	1500 VETERANS DR & COMMERCE ST	LS	FS	ES	
= SFD	A & B	LS	FS	ES	
- SFD	2799 VETERANS DR & CONNER ST	LS	FS	ES	

Buttons: Alias & Soundex Search, Ok, Cancel

- **Location:** Used to designate information relevant to the location, such as a business. For example, if the business Five Points is located at the corner of A & B for the intersection vet & com, and that value is entered in this field, then it displays after the **Prefix**, **House #**, **Full Street**, and **Cross Street** field values, or **Intersection** field value, as shown in the following Geobase Address Selection window.

City	Addr: vet & com	LZ	FZ	EZ	MZ
= SFD	1499 VETERANS DR & COMMERCE ST	LS	FS	ES	
= SFD	1500 VETERANS DR & COMMERCE ST	LS	FS	ES	
= SFD	A & B; Five Points	LS	FS	ES	
- SFD	2799 VETERANS DR & CONNER ST	LS	FS	ES	

Buttons: Alias & Soundex Search, Ok, Cancel

5. Click **OK**.

6. Modify the desired field, and then click **Accept**.

A new gbaddr record and Address ID is created for that intersection's spacial location.

7. Repeat steps 3–6 to create additional Address IDs from the intersection gbaddr record currently open.

8. For every new gbaddr record created from a copied intersection record, the **User Defined XY** field value must be modified to **Y**.

This prevents the software from reverting any altered information, particularly x- and y- coordinates, back to values from the original record when the database is updated.

The **User Defined XY** field can be changed during step 4 or modified after the new record is created.

Using gblogpth to create search logs for data analysis

Use `gblogpth` to create a log file of all addresses entered, including the order that addresses are listed and the candidates ultimately selected from the list. This information can then be used to analyze user behavior and troubleshoot how data can best be set up.

For example, `gblogpth` could be used to gather information on which street names are being entered the most by users. If the majority of users enter `comm ave` instead of `commonwealth ave` when entering addresses, then your agency can add `comm ave` as an alternate name for `commonwealth ave` to preserve this functionality.

To use `gblogpth`, a folder needs to be created in the desired directory to store the log file. The parameter itself will create the log file when the path to the file location is defined in the **Application Parameter Value** field.

When using `gblogpth`, be aware that the log file size is limited only by the operating system's maximum operating size, and can become quite large depending on how many searches are performed and logged. Therefore, the file needs to be manually reviewed and irrelevant data deleted on a regular basis for maintenance.

To set up `gblogpth`:

1. At the Spillman command line, enter **apparam**.

The Application Parameter Table opens.

2. Search for the `gblogpth` record. If the record does not exist, then create it by clicking **Add**.
3. In the **Application Parameter Name** field, enter **gblogpth**.
4. In the **Application Parameter Description** field, enter **Log Geobase Searches**.
5. In the **Application Parameter Value** field, enter the full path to the directory and folder where the log file will be created and saved, and include the name of the log file at the end. The software will automatically create the log file with the file name in the specified folder.

For example, if the log file is named `searchlog`, and it will be saved in the `mapsearch` folder of the `maptest` directory, then enter `\sds\maptest\mapsearch\searchlog`. Use the appropriate path format for your agency's system.

When defining the parameter value, make sure the log file created has permissions for all users to log to this file. For more information on setting up privileges, see the *Spillman Application Setup and Maintenance Manual*.

6. Click **Accept**.

The parameter creates the search log file in the specified directory.

To disable search logging, modify the **Application Parameter Value** field to be blank.

Using gbminaka and gbminloc to determine how to truncate address information

The address field in Spillman is used to display the street address. The address field can also display the common place name, location, and comments of the address, assuming this information is available. The address field allows up to 40 characters, including spaces and semicolons (;), in the following format:

```
street address; common place name; location; comments
```

If address information is longer than 40 characters, then the software truncates the address information. Use the gbminaka and gbminloc application parameters to determine which information is truncated when the 40-character limit is exceeded.

gbminaka

Use gbminaka to determine the minimum number of characters of the common place name that display in the address field when address information must be truncated. For example, to have the software display only six characters of the common place name in the address field, set gbminaka to **6**. The software counts the spaces between words as characters.

gbminloc

Use gbminloc to determine the minimum number of characters from the **Location** field that display in the address field when address information must be truncated. For example, to have the software display only three characters of the location in the address field, set gbminloc to **3**. The software counts the spaces between words as characters.

Using address information from the following table, the following example demonstrates the use of gbminaka and gbminloc.

Description	Data
Address	5616 Aspen Rd
Common place name	Audio House - Downtown
Location	3500 E

Depending on the settings of `gbminaka` and `gbminloc`, if **Audio House; see Pam on arrival** is searched on, then the following information displays.

Example	gbminaka	gbminloc	Displayed address information (up to 40 characters)
1			5616 Aspen Rd; Audio House - Downtown; 3
2	2		5616 Aspen Rd; Au; 3500 E; see Pam on ar
3	2	0	5616 Aspen Rd; Au; 3; see Pam on arrival
4	3	0	5616 Aspen Rd; Aud; see Pam on arrival

Example 1: If both `gbminaka` and `gbminloc` are blank, then the software displays address information up to 40 characters.

Example 2: If `gbminaka` is set to 2, and `gbminloc` is blank, then the software displays two characters of the common place name, the full location name (as `gbminloc` has not been turned on), and as much of the comments as possible until 40 characters are met.

Example 3: If `gbminaka` is set to 2, and `gbminloc` is set to 0, then the software displays two characters of the common place name and the comments. Since space still remains, one character of the location name displays.

Example 4: If `gbminaka` is set to 3, and `gbminloc` is set to 0, then the software displays three characters of the common place name and the comments. Since 40 characters are met, none of the location name is displayed.

Using `gbminsnd` to determine the minimum characters for a sound-alike match

Use `gbminsnd` to specify the minimum number of characters (1–4) the software will use when searching for a sound-alike match between the entered name and the values from the alias table. The default value is 1. When performing a soundex (phonetic spelling) check on an address, the software does not show a match unless at least the first *x* characters of the soundex spelling are the same, where *x* is the value entered in `gbminsnd`.

Using gbminspl to determine the minimum characters for a spell-alike match

Use `gbminspl` to specify the minimum number of characters (1–6) the software will use when searching for a spell-alike match between the entered name and the values from the alias table. The default value is 1. When performing a spell-alike check on an address, the software does not show a match unless at least the first *x* characters of the spell-alike are the same, where *x* is the value entered in `gbminspl`.

Using gbmxtstl to determine the maximum number of streets selected in an address search

Use `gbmxtstl` to control how extensively the software searches. Use a value in the range of 1–99. The default value is 6.

Using gbprefix to determine if prefixes are displayed for grid-based addressing

Use `gbprefix` to determine whether the software displays prefixes for grid-based addressing. The default value is **False**. If grid-based addressing is used, then set `gbprefix` to 1, **True**, or **Yes** to incorporate address prefixes. Using grid-based addressing also affects how the software searches for addresses. For more information, see “Understanding the Geobase Address Selection window and grid-based addressing” on page 384.

Using gbrelxy to determine if relative or absolute coordinates are displayed

Use `gbrelxy` to determine if the software displays relative coordinates or absolute coordinates in the Geobase Address Selection window and the dispatch units window. The valid values are **True** and **False**, with the default setting as **False**. To display relative coordinates, enter **True**. To display absolute coordinates, keep the default setting of **False**.

Using *gbsfact* to determine the scaling factor for your map

The value entered in *gbsfact* defines the scaling factor the Geobase module uses to transform your latitude and longitude map into an x-, y- coordinate system. Use the value **1000000** (1,000,000) as the scaling factor. The software uses this value to scale the map coordinates to one millionth of a degree.

Using *gbxfact* to determine the geobase x-coordinate factor

The software uses the x-coordinate factor to translate external data points, such as Mobile AVL locations, that are relative to the longitude and latitude origin into coordinates that are relative to the origin of your geobase.

Enter the *negative* of the x-coordinate factor used to create your geobase. The *gbload* program loads the values for *gbsfact*, *gbxfact*, and *gbyfact*.

NOTE

The *gbsfact* value must match the value used to create the geobase data. The *gbxfact* and *gbyfact* values must be the *negative* of the x- and y- coordinate factor values used to create your map.

Using *gbyfact* to determine the geobase y-coordinate factor

The software uses the y-coordinate factor to translate external data points, such as Mobile AVL locations, that are relative to the longitude and latitude origin into coordinates that are relative to the origin of your geobase.

Enter the *negative* of the y-coordinate factor used to create your geobase. The *gbload* program loads the values for *gbsfact*, *gbxfact*, and *gbyfact*.

NOTE

The *gbsfact* value must match the value used to create the geobase data. The *gbxfact* and *gbyfact* values must be the *negative* of the x- and y-coordinate factor values used to create your map.

Using *geobase* to determine if geobased records are used

Use *geobase* to determine if the software uses the geobase to search geobase records for address information. The valid values are **True** and **False**, with the default setting as **False**. To use the geobase to search geobase records for address information, keep the default value of **False**. For more information, see [“Verifying that the Live geobase is turned off” on page 37](#).

Using geoconvt to determine if area searches are performed in feet, miles, or geobase units

Use `geoconvt` to determine whether users are to enter the distance in area `Between` searches in feet (`ft`), miles (`mi`), or geobase units (blank), such as millionths of a degree. If `geoconvt` is left blank, then the software measures the distance in geobase units. For more information, see “Using a `Between` search for areas around an address” on page 261.

NOTE

The `geoconvt` application parameter can only be set to `ft` or `mi` if your agency's map is set in longitude and latitude. If `geoconvt` is left blank and your agency's map is not in longitude and latitude, then users must enter the unit of measurement your agency's map uses.

Understanding geobase unit values for `Between` searches when using a longitude and latitude map

A `Between` search on an address defines a rectangular search area centered around the specified address. The rectangle's width is the X value, and the rectangle's height is the Y value.

The software uses the following values to determine the value of a geobase unit:

- The circumference of the earth (24,900 miles)
- The scaling factor (`gbsfact`)
- The latitude of the center of your agency's map, and the distance per degree changes when moving north or south from the equator

For example, if the scaling factor (`gbsfact`) is set to `1000000`, and the latitude of the center of your map is `41.750000` degrees, then the following values result for a single geobase unit.

One geobase unit for	Is equivalent to
X	3.270 inches (1/1000000 degree longitude)
Y	4.382 inches (1/1000000 degree latitude)

Using these values, if a `Between` search is performed for one mile around an address (1 mile = 63,360 inches), then the X value is 19379 geobase units (1 mile divided by 3.270 inches) and the Y value is 14458 geobase units (1 mile divided by 4.382 inches).

Using geodist to determine the distance between grid lines

Use `geodist` to define the distance (in feet) for 100 geobase units. This distance is used in calculating the distance for water source information. The default value is 300.

If using longitude and latitude, do one of the following:

- If the scaling factor (`gbsfact`) is set to 1000000, then set `geodist` to 36.52.
- If the scaling factor (`gbsfact`) is set to 100000, then set `geodist` to 365.2.

For more information about the `gbsfact` application parameter, see “Using `gbsfact` to determine the scaling factor for your map” on page 70.

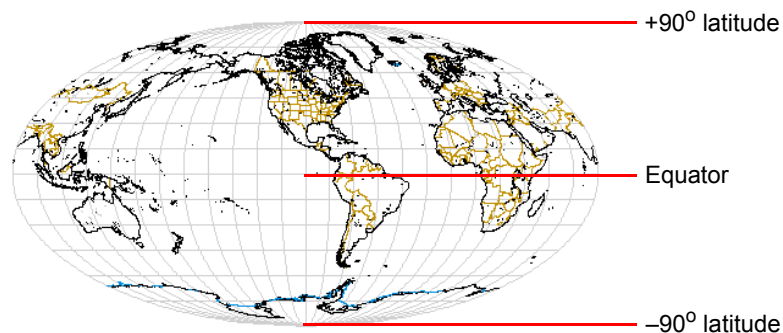
Using geolat to determine the average latitude of a geobase area

If using latitude and longitude when building your geobase, set `geolat` to the average degrees latitude of your geobase area. The default value is 0.

To find the average degrees latitude, add your geobase values for a coordinate total, and then divide the total by 2.

For example, if your geobase area extends from 42.34° to 42.91°, then set `geolat` to 42.625 because $42.34 + 42.91 = 85.25$ and $85.25 / 2 = 42.625$.

The `geolat` application parameter compensates for distance variations in degrees longitude. At the equator, the distance represented by a degree longitude is the same as the distance represented by a degree latitude. However, when moving further from the equator, a degree longitude represents an increasingly shorter distance than a degree latitude. Therefore, if using latitude and longitude, `geolat` must be set.



NOTE

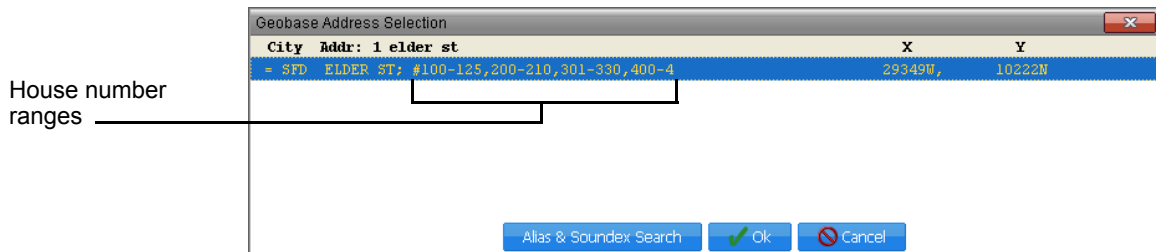
For the Computer-Aided Dispatch (CAD) module to correctly recommend the law, fire, or EMS unit that is from the zone closest to an incident, `geolat` must be set correctly.

For more information on using latitude, longitude, or non-earth coordinates, see “Constructing the Map in ArcGIS” on page 79. For more information on factors CAD considers when recommending units, see the *Spillman Applications Setup and Maintenance Manual*.

Using `geonrang` to determine if range records are displayed

Use `geonrang` to determine whether the software displays range records in the Geobase Address Selection window. To allow the software to display range records, set `geonrang` to **0**, **False**, or **No**. To prevent the software from displaying range records, set `geonrang` to **1**, **True**, or **Yes**. The default value is **False**.

When a user enters an address using an invalid house number and the exact street name, the software can display the house number ranges for each segment on that street. This information helps the user understand that they have entered an incorrect value. The range record also shows the valid house number ranges, as shown in the following example.



NOTE

If using prefixes, the software displays the prefix after the street name and then lists the house number ranges.

CAUTION

If a range record or an address that does not include a house number is selected from the Geobase Address Selection window, then the software uses the zone and location of a random street segment on that street, which may cause your agency problems. For example, if the street is a highway that contains multiple street segments and covers multiple zones, then the address location, dispatch zone, and/or reporting zone might be grossly misrepresented.

Using geoxshft to determine the bits to shift geobase x-coordinates

During geobase implementation, the `geoxshft` parameter is set to the information supplied by your agency. The default value is 7.

CAUTION

The `geoxshft` setting affects the number of records the software searches to find nearby addresses. Do *not* change this parameter without contacting Spillman Customer Support.

If using longitude and latitude, do one of the following:

- If the scaling factor (`gbsfact`) is set to 1000000, then set `geoxshft` to 11.
- If the scaling factor (`gbsfact`) is set to 100000, then set `geoxshft` to 7.

For more information about the `gbsfact` application parameter, see “Using `gbsfact` to determine the scaling factor for your map” on page 70.

NOTE

If the `geoxshft` field value is changed, then exit and re-enter the software. Afterward, run `gbrekey`. For more information about `gbrekey`, see “Understanding `gbrekey`” on page 371.

Using georintr to determine if intersections are rounded

To round house numbers of intersections to the nearest 5, set `georintr` to **Yes**. Otherwise, leave `georintr` set to **No** to ensure that information for intersections is correct. The valid values are **Yes** and **No**, with the default setting as **No**.

Using geosistr to determine if self-intersecting streets are allowed

To make the software search for self-intersecting streets, set `geosistr` to **Yes**. Otherwise, set `geosistr` to **No** to prevent the software from searching for self-intersecting streets. Unless there are streets that intersect themselves, keep this parameter set to **No**.

If `geosistr` is set to **Yes**, be aware of the following:

- The software cannot distinguish a self-intersection from a street segment break. Therefore, when a user searches for a self-intersection, the Geobase Address Selection window displays the self-intersection *and* all street segment breaks for the specified street.
- In rare cases, other aspects of the geobase setup might cause the Geobase Address Selection window to include a self-intersection when a user searches for an intersection between differently named streets.

For example, if `gbminspl` is set to 2, and an alias record is created for a McDonalds at 145 Able Street, then when a user searches for the intersection **Able & McVernon**, the Geobase Address Selection window includes matches for Able St & Able St because the software performs a spell-alike search based on the letters **Mc**. For more information, see [“Using the Geobase Address Selection window” on page 243](#).

Related application parameters

The following application parameters affect your geobase. However, they also affect other aspects of your software, such as the Computer-Aided Dispatch (CAD) module. For more information on setting up CAD, see the *Spillman Applications Setup and Maintenance Manual*.

Parameter	Description	Value
<code>cddupinc</code>	CAD duplicate incident range	Numeric
	<p>Applies to CAD-Geobase and CAD-Response Plans. Determines how close together two active calls can be (in geobase units) before the software alerts the call-taker that they might be duplicates.</p> <p>The value entered depends on how your map is set up, as shown in the following examples.</p> <ul style="list-style-type: none"> • If using longitude and latitude: To search half a block, do one of the following: <ul style="list-style-type: none"> – If the scaling factor (<code>gbsfact</code>) is set to 1000000, then set <code>cddupinc</code> to 904. – If the scaling factor (<code>gbsfact</code>) is set to 100000, then set <code>cddupinc</code> to 90. • If longitude and latitude are not used, and your geobase is set up with a block roughly equal to 100 units: To search half a block, set <code>cddupinc</code> to 50. 	
<code>geots</code>	Geobase address of ts	YES / NO

Parameter	Description	Value
	<p>Applies to CAD-Geobase and CAD-Response Plans. Determines whether the software uses your agency's geobase to verify addresses that are entered in the Traffic Stop window and the Traffic Stop table (cdtrstop).</p> <ul style="list-style-type: none"> • If geots is set to YES, then the software geocodes traffic stops as they are entered. • If geots is set to CALL, then the software does not geocode traffic stops. However, it does geocode all subsequent calls created from a traffic stop. • If geots is set to NO, then the software does not geocode traffic stops or any calls created from the traffic stop. <p>The default value is NO.</p>	
hydrprox	Hydrant search area	YES / NO
	<p>Displays Feet column for Hydrant. This parameter works with the water resource table. To see the distance (in feet) to a water resource from the call when using the ws command in CAD, set hydrprox to YES.</p>	

Parameter	Description	Value
hydrradi	Hydrant radius search value	Numeric
	<p>Applies to CAD-Geobase and CAD-Response Plans. Defines the geobase radius where water sources will be found with the ws command in CAD. To use this application parameter, your software must use the Fire Records module and have access to water source information. The value entered depends on how your map is set up, as shown in the following examples.</p> <ul style="list-style-type: none"> • If using longitude and latitude: <p>To search a two-block area, do one of the following:</p> <ul style="list-style-type: none"> — If the scaling factor (gbsfact) is set to 1000000, then set hydrradi to 3614. — If the scaling factor (gbsfact) is set to 100000, then set hydrradi to 361. • If longitude and latitude are not used, and your geobase is set up with a block roughly equal to 100 units: <p>To search a two-block area, set hydrradi to 200.</p> 	
soundex	Soundex method to use	N / NY1 / 5
	<p>Determines the type of soundex search used. Most agencies enter the following:</p> <ul style="list-style-type: none"> • 5: Helps geobase verification of addresses • NY1: Aids in last name searches. 	

chapter 3

Constructing the Map in ArcGIS

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Introduction

This chapter describes how to set up the geobase in ESRI® ArcGIS™ to make your data fully compatible with the Spillman software. Full compatibility is essential. Otherwise, data cannot be properly transferred from ArcGIS to the Spillman software and vice versa.

NOTE

This chapter describes ArcGIS functions *only* as they relate to the Spillman software's data requirements for geobase setup. For more information on using ArcGIS to set up your geobase, refer to the ArcGIS documentation.

If upgrading ArcGIS or calling Spillman Customer Support with geobase questions, tell Customer Support personnel which version of ArcGIS was used to build your geobase. Information in this chapter is based on ArcGIS 9.3. Always consult your ArcGIS documentation for the most current and accurate information.

Getting Started in ArcGIS

ArcGIS consists of the following programs:

- ArcCatalog
- ArcMap

ArcCatalog and ArcMap are used to build your geobase map. ArcCatalog is used to create shapefiles, geodatabases, and dBASE tables, which can then be imported into ArcMap as map layers.

When building your geobase, it is important to keep data organized. ArcGIS uses the following elements to organize information:

- **Maps.** Maps contain a visual representation of geographic data for a specific location.
- **Layers.** Layers contain spatial and tabular data, which are representations of geographic information in the form of polylines (for streets), points (for common places), or polygons (for zones) and their associated tables.
- **Tables.** Tables contain tabular representations of geographic information from your map or GIS data that do not have associated spatial data.

To get started in ArcGIS, use the following information:

- [“Creating a directory for your map files” on page 81](#)
- [“Using the Spillman toolbar” on page 82](#)
- [“Using grid-based addressing” on page 87](#)
- [“Creating a layer on your map” on page 87](#)
- [“Working with tables in ArcCatalog and ArcMap” on page 96](#)

Creating a directory for your map files

For easy access to your agency’s map files, create a directory where all files can be stored in one location.

To create a directory for your map files:

1. Choose a location on your computer or the network in which to create the directory. At least 30 megabytes (MB) of space should be designated for storage, as large maps may require more space.
2. Create a directory and change the name to represent your map files. For example, **Springfield Map**. For more information on creating a directory, refer to your Windows® documentation.

Using the Spillman toolbar

To make your map compatible with Spillman, use the Spillman toolbar.



Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10.0

To use the Spillman toolbar with ArcGIS 9.3 or 10, use the following information:

- “Loading the Spillman toolbar for ArcGIS 9.3” on page 82
- “Loading the Spillman toolbar for ArcGIS 10” on page 83
- “Understanding the Spillman toolbar” on page 86

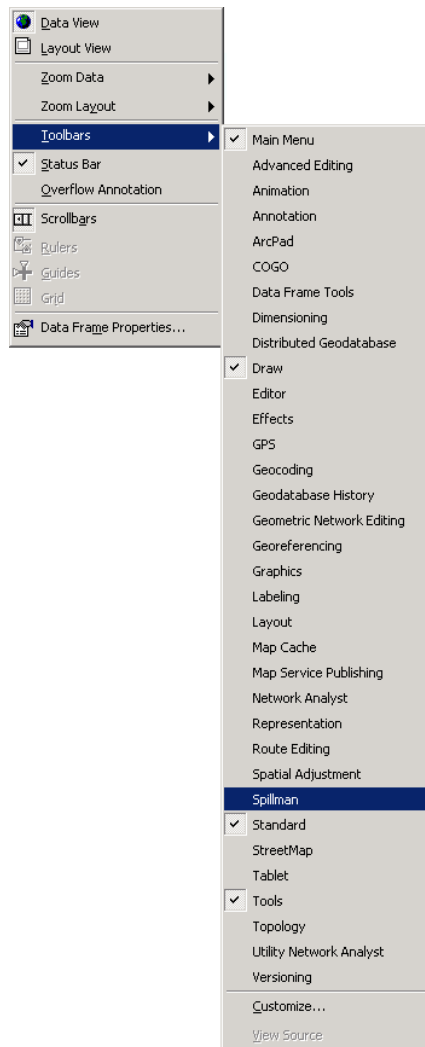
Loading the Spillman toolbar for ArcGIS 9.3

To load the Spillman toolbar for ArcGIS 9.3, run the Spillman toolbar installer supplied by Spillman.

CAUTION

Prior to installing the Spillman toolbar, ArcGIS 9.3 or greater must be installed on the PC.

To view the Spillman toolbar, open ArcMap. The Spillman toolbar automatically displays and can be docked to ArcMap. To remove the toolbar from displaying, click **View**, and then select **Toolbars > Spillman**.



Loading the Spillman toolbar for ArcGIS 10

To use the Spillman toolbar for ArcGIS 10, run the Spillman toolbar Add-In supplied by Spillman.

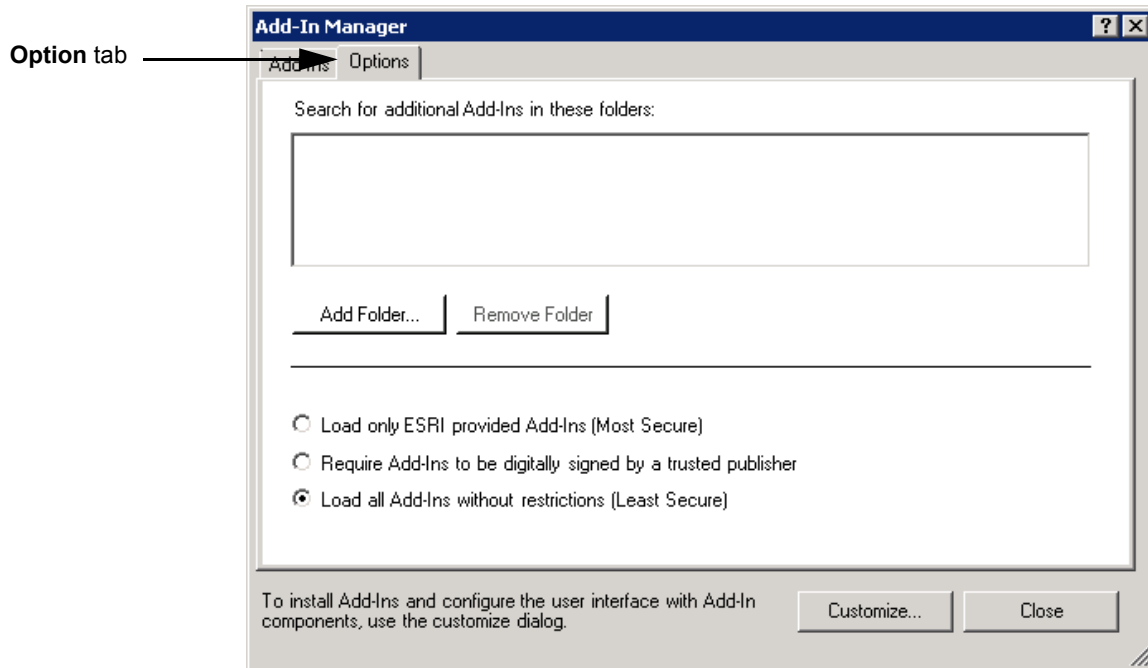
CAUTION

Prior to installing the Spillman toolbar Add-in, ArcGIS 10 or greater must be installed on the PC.

To run the Spillman toolbar Add-In:

1. In ArcMap 10, select **Customize > Add-In Manager**.

The Add-In Manager dialog box opens.

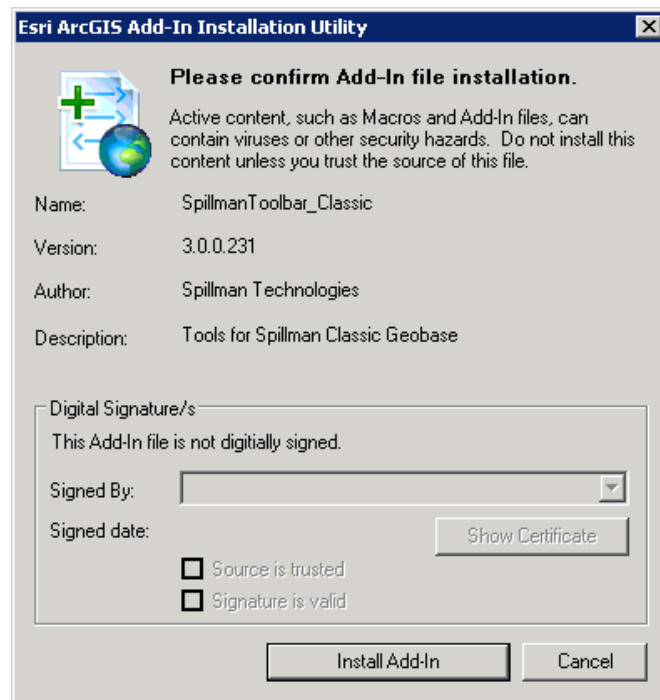


TIP

The Spillman toolbar Add-in can be installed using the ArcMap Add-In Manager dialog box. For more information, see the ArcGIS 10 documentation.

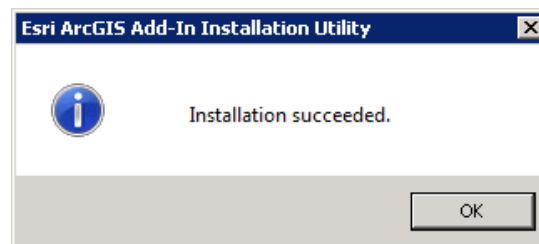
2. Click the **Options** tab.
3. Select the **Load all Add-Ins without restrictions (Least Secure)** option.
4. Click **Close**, and then exit ArcMap 10.
5. Locate the `spillmantoolbar_classic.esriaddin` file supplied by Spillman, and then double-click the file.

The ESRI ArcGIS Add-In Installation Utility dialog box opens.



6. Click the **Install Add-In** button.

Once installation is complete, the ESRI ArcGIS Add-In Installation Utility dialog box opens, displaying the message: Installation succeeded.



















7. Click **OK**.
8. Open ArcMap 10.







The Spillman toolbar automatically displays, and can be docked to ArcMap. To remove the toolbar from displaying, click **Customize**, and then select **Toolbar > Spillman Toolbar**.

Understanding the Spillman toolbar

The Spillman toolbar allows quick access to the Spillman custom tools, and is compatible with ArcGIS 9.3 and 10.

The following table describes each Spillman custom tool and its function.

9.3 Tool icon	10 Tool icon	Tool name	Use this tool to
		Alias Update	Create and update the Alias table (<code>alias.dbf</code>). The first time the Alias Update tool is run, the software creates the <code>alias.dbf</code> table. Each subsequent time the tool is run, the software appends the alias information from the selected table (street alias or common place) to the <code>alias.dbf</code> file.
		Add Spillman Zone Fields	Create zone fields on the geobase Attributes table. To create a zone field, select the check box next to the zone field name and click OK .
		Create Zones	Create the <code>tbzones</code> table, the zone code, and the x- and y-center coordinates for the zone. This tool also creates the Master Values table, which contains scaling and translation factors.
		Update Zone Centers	Update the x- and y-coordinates for the center of the selected zone(s).
		Locate Reversed Streets	Search for streets drawn in the wrong direction, and for street segments with invalid <code>From</code> and <code>To</code> values.
		Reverse Street Direction	Change the direction of the selected streets, or change the <code>From</code> and <code>To</code> values in the geobase Attributes table. This tool allows you to specify which method of reversing the street direction you prefer.
		Populate Fields from Polygon Layers	Populate Zone , City Code , and Zip Code fields from the designated polygon layers.
		Validation	Validate your ArcGIS data. The Validation icon contains a list of validation tools for your map data. Validating your map increases data accuracy.

9.3 Tool icon	10 Tool icon	Tool name	Use this tool to
		Create Text Files	Convert the data in your ArcGIS tables (geobase Attributes, tbzones, alias.dbf) into a format that gbload can transfer into Spillman. This tool creates the following files: <ul style="list-style-type: none"> • gbstreet.out • gbzone.out • tbzones.out • gbstname.out • gbsaka.out • apparam.out
		Standardize Addresses	Standardize addresses of a specific table by dividing the address into its individual elements. Each address part is placed into a separate field. Standardized addresses function better with ESRI address locators.
		About Spillman Toolbar	Display information about the Spillman Toolbar, such as version and copyright information.

Using grid-based addressing

ArcGIS is compatible with grid-based addressing. Grid-based addressing is when addresses are based on their relationship to a grid of your area or jurisdiction.

For example, if an area contains the grid-based address N415E225 Sycamore Avenue, then the address would need to be divided into the following field elements to be compatible with the Spillman software:

- **Prefix:** N415E
- **House Number:** 225
- **Street Name:** Sycamore Avenue

NOTE

To better understand the difference between distance-based addressing and grid-based addressing, see [“Entering and Searching for Addresses” on page 21](#)

Creating a layer on your map

A layer is a group of similar types of information that represent spatial data. Layers can be comprised of the following:

- Polylines (for a street layer)

- Points (for a common place layer or address layer)
- Polygons (for a zones layer).

To create a layer on your map:

1. Create a shapefile for the layer. For more information, see [“Creating a shapefile in ArcCatalog” on page 88](#).

If the shapefile is for a streets layer to be used later with the **Reverse Street Direction** tool, then convert the shapefile to a geodatabase file. For more information, see [“Converting a street shapefile to a geodatabase file” on page 93](#).

2. Add the shapefile as a layer to ArcMap. For more information, see [“Adding a layer in ArcMap” on page 95](#).

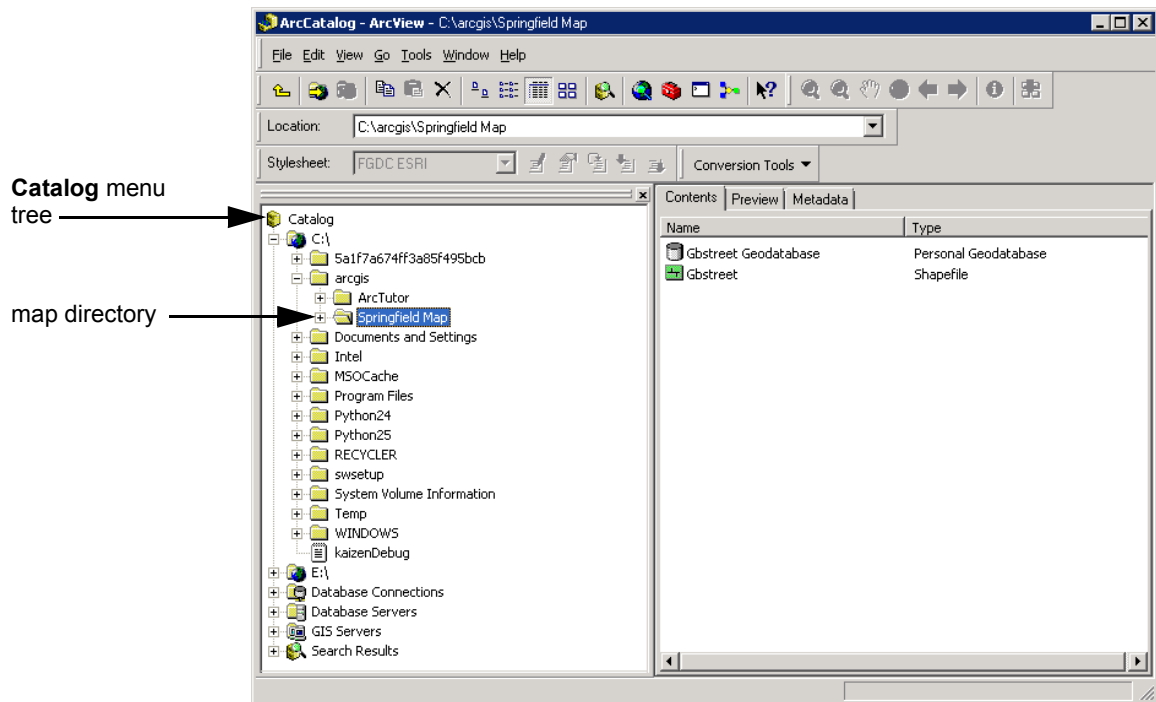
Creating a shapefile in ArcCatalog

A shapefile can be created in ArcCatalog and then added to ArcMap as a layer, such as the geobase or streets layer. If your agency has existing shapefiles, skip to [“Adding a layer in ArcMap” on page 95](#).

To create a shapefile layer in ArcCatalog:

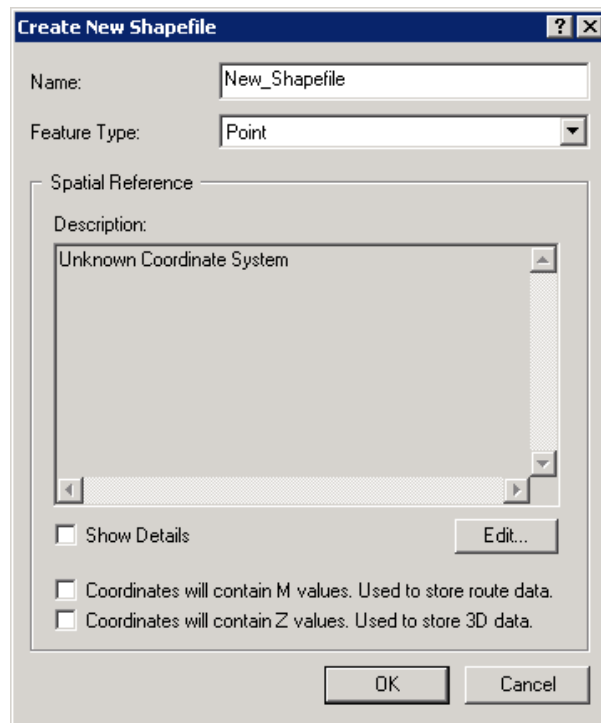
1. Open ArcCatalog.

2. From the Catalog menu tree, open the map directory designated for your map files. For more information, see “Creating a directory for your map files” on page 81.



3. Select **File > New > Shapefile**.

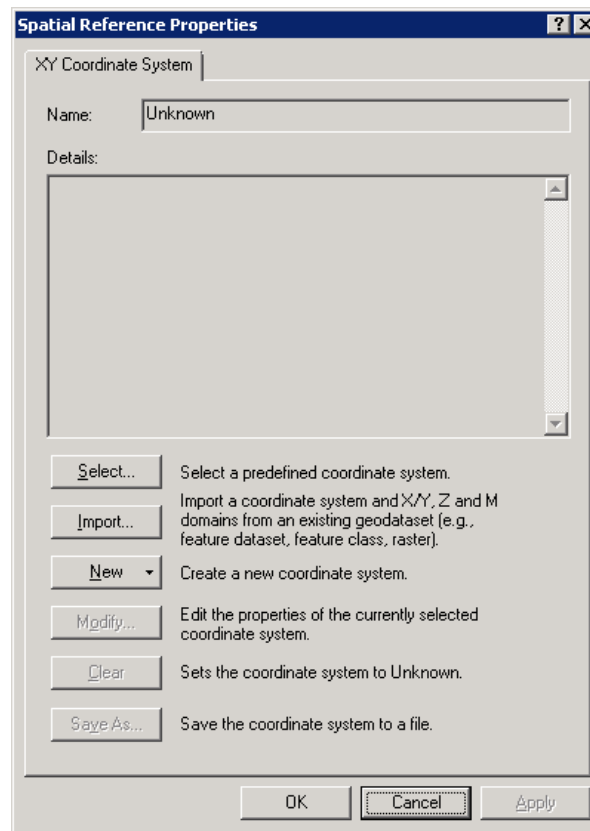
The Create New Shapefile dialog box opens.



4. In the **Name** field, enter the name of the new shapefile.

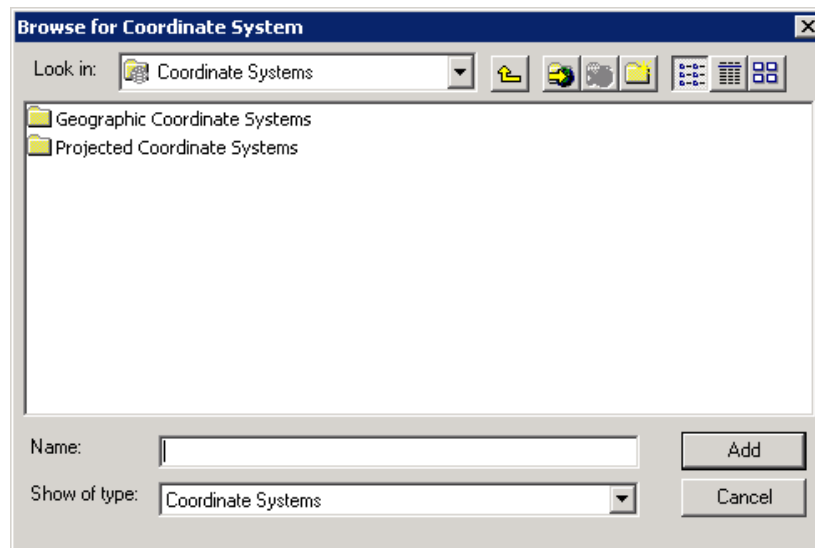
For example, if a shapefile is being created for a streets layer in the Springfield area, then one of the following names might be entered: **Gbstreet**, **Geobase Streets**, or **Springfield Streets**.
5. In the **Feature Type** field, select the type of shapefile to be created:
 - **Point or multipoint** (for a common place layer or address layer)
 - **Polylines** (for a street layer)
 - **Polygons** (for a zones layer)
6. In the **Spatial Reference** area, click **Edit**.

The Spatial Reference Properties dialog box opens.



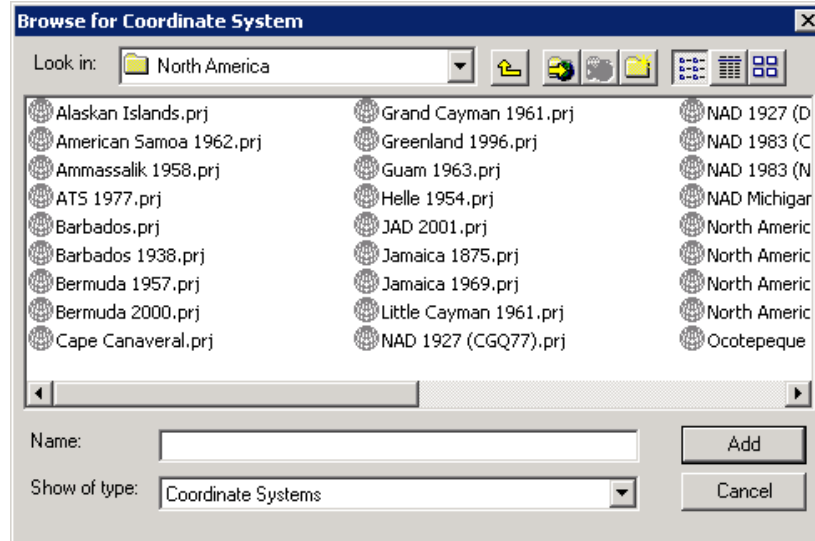
7. Click **Select**.

The Browse for Coordinate System dialog box opens.



8. Select **Geographic Coordinate Systems > North America**.

The North America folder opens.



9. From the list of North American coordinate systems, select the one your agency uses. For example, North American Datum 1927.prj.

10. Click **Add**.

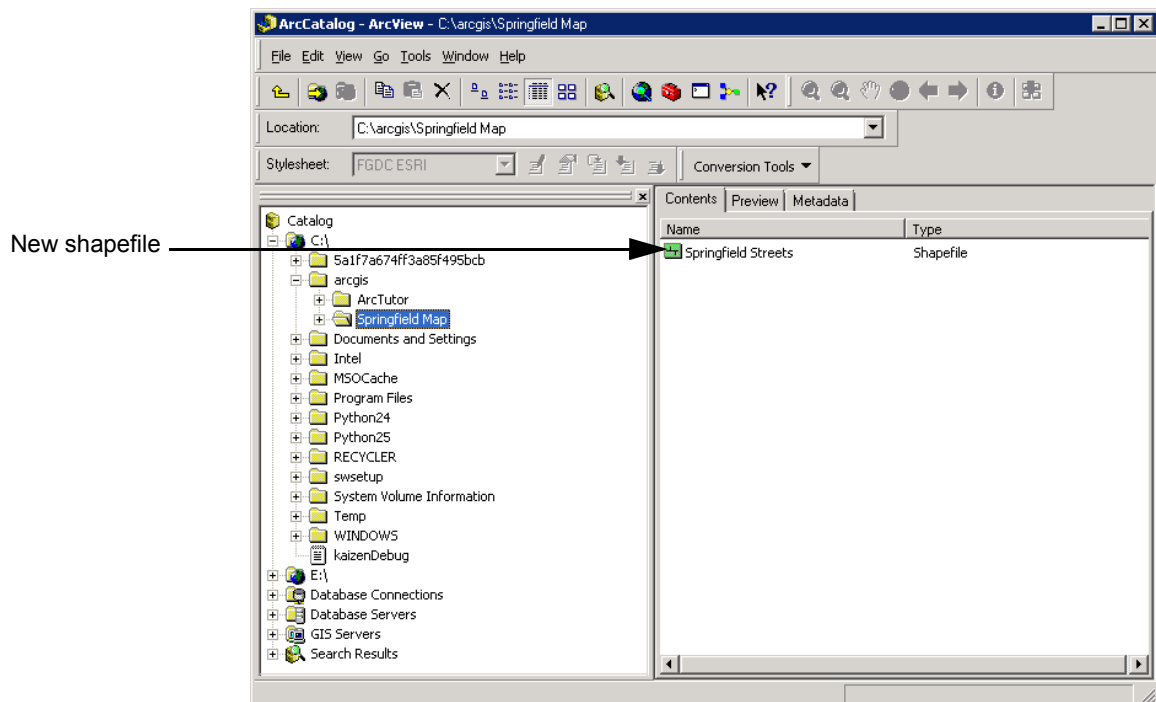
The software closes the Browse for Coordinate System dialog box and returns to the Spatial Reference Properties dialog box.

11. Click **OK**.

The software closes the Spatial Reference Properties dialog box and returns to the Create New Shapefile dialog box.

12. Click **OK**.

The new shapefile displays in the map directory.



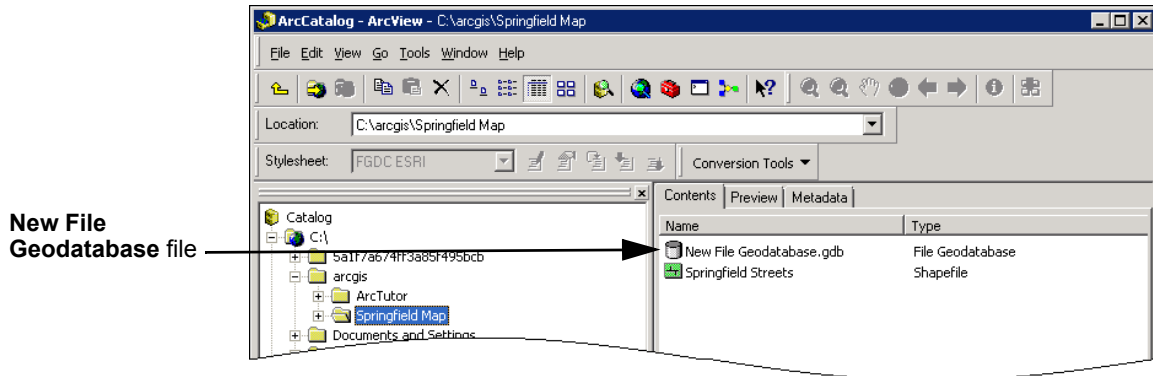
Converting a street shapefile to a geodatabase file

To use the **Locate Reversed Streets** tool, the software must recognize the street segment's object identification number for each street segment. Therefore, the street shapefile must be converted to a file geodatabase.

To convert the street shapefile to a file geodatabase:

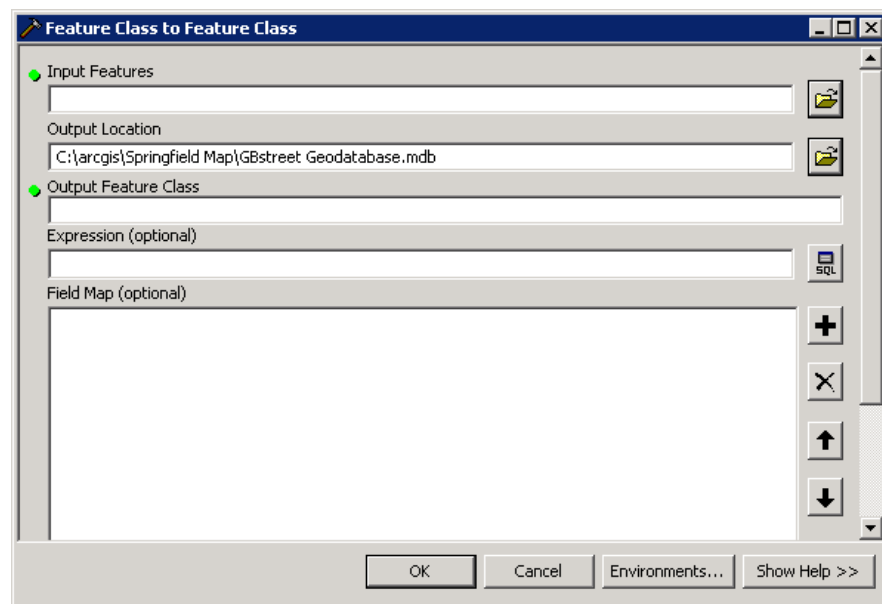
1. Open ArcCatalog.
2. From the Catalog menu tree, open the map folder designated for your map files. For more information, see [“Creating a directory for your map files” on page 81](#).
3. Select **File > New > File Geodatabase**.

A new file named New File Geodatabase is created in your map directory.



4. Rename the geodatabase file. For example, the name of the street shapefile, such as GBstreet Geodatabase.
5. Right-click the geodatabase file, and then select **Import > Feature Class (single)**.

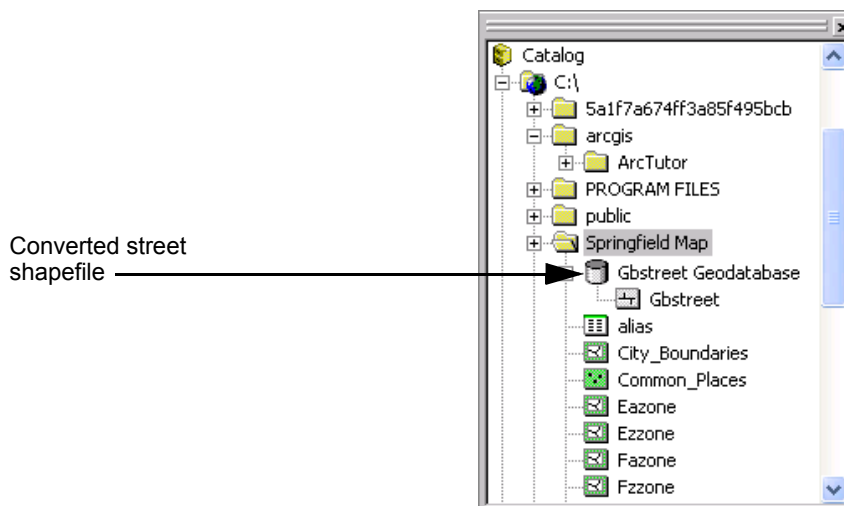
The Feature Class to Feature Class dialog box opens.



6. In the **Input Features** field, enter the path to the street shapefile in your map directory, or locate the path by clicking the **Open Folder** icon and navigating to the map directory.

7. In the **Output Feature Class** field, enter the name of the new feature class.
8. To use the **Expression (optional)** and **Field Map (optional)** fields, see ESRI's documentation. Otherwise, leave these fields blank, as they are optional and not necessary to complete the process.
9. Click **OK**.

A dialog box opens, indicating that the software is converting the street shapefile to a file geodatabase. When finished, the dialog box closes and the converted street layer is placed in the geodatabase folder.




To add the converted street shapefile to your map in ArcMap, see [“Adding a layer in ArcMap” on page 95](#).

Adding a layer in ArcMap

Data files that already exist or have been created can be added as map layers in ArcMap.

To add a layer to your map:

1. Open your geobase map in ArcMap.
2. Click the **Add Data** () button.

The Add Data dialog box opens.

3. Locate the map folder designated for your map files. For more information, see [“Creating a directory for your map files” on page 81](#).

4. Select the file to add to the map, and then click **Add**.

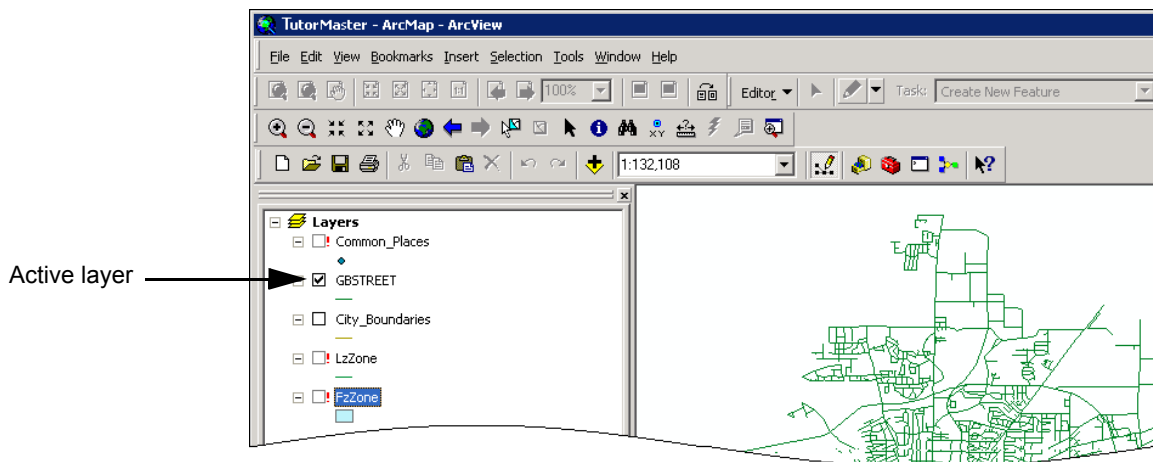
The layer is added to the map, and ArcMap displays the new layer on the map's table of contents.

Rearranging map layers in ArcMap

From the data frame window, map layers can be rearranged to view the contents of multiple layers at one time.

To rearrange a map layer:

1. Click the check box next to the name of the desired layer to view it.
2. To move the layer to the foreground, drag it to the top of the list in the data frame window.



Working with tables in ArcCatalog and ArcMap

Tables created in ArcMap contain data that is transferred into Spillman. When the Spillman **Create Text Files** tool is run after building the map, it converts the ArcGIS data into a Spillman-compatible format.

The following types of tables are associated with your geobase map:

- **Layer Attributes table.** A layer Attributes table contains tabular data that corresponds directly with spatial data on the map. When a layer is added to ArcMap, the layer contains an Attributes table. Fields are defined and record information is added to this table. For example, the geobase Attributes table is a layer Attributes table.
- **dBASE table.** A dBASE table contains tabular data that does not necessarily correspond with spatial data on the map. A dBASE table

must be created in ArcCatalog and then added to ArcMap. For example, the alias table (`alias.dbf`) is a dBASE table.

The following table lists tables in ArcMap and their associated tables in Spillman.

Table in ArcMap	Associated table(s) in Spillman
geobase Attributes	Geobase Street Segments (<code>gbstreet</code>), Geobase Street Names (<code>gbstname</code>), and Alias Street Names (<code>gbsaka</code>) tables, and the Street Zone Detail window (<code>gbzone</code>)
<code>alias.dbf</code> This table is created when the Alias Update tool is run. Each time the tool is run on a common place or street alias table, the tool adds the data from that table to the <code>alias.dbf</code> table.	Alias Street Names (<code>gbsaka</code>)
<code>addresses.dbf</code> or address Attributes This layer is optional.	Geobase Address Maintenance (<code>gbaddr</code>)
<code>tbzones.dbf</code> This table is created when the Create Zones tool is run. The <code>tbzones.dbf</code> table contains the tabular data from all zone layers.	Zone Codes (<code>tbzones</code>) and the Street Zone Detail window (<code>gbzone</code>)

NOTE

When building map tables, be as thorough and accurate as possible, keeping in mind that the data is later transferred from your GIS tables into Spillman. For information, see [“Transferring Data from ArcGIS to Spillman”](#) on page 209.

Overview of Tasks

Before building your map in ArcGIS, make sure to complete the tasks described in [Chapter 2, “Completing the Initial Setup in Spillman,”](#) which begins on page 35.

To build your map in ArcGIS, the following tasks must be performed:

- Setting up the geobase layer

NOTE

If the geobase layer is already set up, such as streets have been imported into ArcMap, then verify that the geobase Attributes table contains the proper fields. For more information, see [“Required fields for the geobase Attributes table”](#) on page 103.

If creating the geobase layer yourself, do the following:

- Define the structure of the geobase Attributes table. See [“Required fields for the geobase Attributes table”](#) on page 103.
- Create a geobase layer, and draw the streets on this layer. See [“Drawing streets”](#) on page 104.
- Enter street information in the geobase Attributes table. Do not use punctuation or special characters. See [“Entering information in the geobase Attributes table”](#) on page 106.
- If the exact x-, y-coordinates of an apartment or office building to be geobased are known, then they can be added immediately after adding streets. See [“Geobasing apartment and office buildings”](#) on page 117 and [“Distinguishing apartment and office building lines from street lines”](#) on page 119.
- Setting up the alias table and common place tables
 - Add street and common place alias layers to ArcMap. See [“Adding an alias layer”](#) on page 125.
 - Enter street aliases in the alias table. See [“Adding alias records to an alias table”](#) on page 126.
 - Run the **Alias Update** tool to set up the alias table in ArcGIS. See [“Running the Alias Update tool”](#) on page 130.
- Setting up the address table
 - Add an address table or layer to ArcMap. See [“Setting Up the Address Layer”](#) on page 133.
 - Enter addresses in the address table. See [“Entering information in the address Attributes or dBASE table”](#) on page 144.

- Geocoding common place tables
 - Create a geocoding service. See [“Creating a geocoding service based on address style” on page 149.](#)
 - Standardize addresses so they can be geocoded. See [“Running the Standardize Addresses tool on the geobase Attributes table” on page 152.](#)
 - Geocode each common place table to plot common places on the map. See [“Geocoding a common place table in ArcMap” on page 154.](#)
- Setting up the zone layers
 - Set up zone layers in ArcMap. See [“Setting Up the Zone Layers” on page 158.](#)
- Setting up city layers (optional)
 - It is unnecessary to create city and county layers for ArcGIS data to be compatible with Spillman. See [“Setting Up the City Layer” on page 176.](#)
- Validating your map data
 - Validate your ArcGIS data before transferring it to Spillman. See [“Validating Your ArcGIS Data” on page 180.](#)

Setting Up the Geobase Layer

To create the geobase layer, the map must be created and the geobase Attributes table set up. The map must contain each street in your jurisdiction, and the geobase Attributes table, or street information table, must include the name of each street and address ranges for each side of each street.

Use the following information when setting up the geobase layer:

- “Spillman tables related to the ArcGIS geobase layer” on page 100
- “Adding a geobase layer to ArcMap to draw streets” on page 103
- “Required fields for the geobase Attributes table” on page 103
- “Drawing streets” on page 104
- “Entering information in the geobase Attributes table” on page 106
- “Reversing street segments” on page 107
- “Splitting streets” on page 114
- “Combining fields in the geobase Attributes table” on page 115
- “Geobasing apartment and office buildings” on page 117
- “Distinguishing apartment and office building lines from street lines” on page 119

Spillman tables related to the ArcGIS geobase layer

After your map is created, run the **Create Text Files** tool. This tool saves information from the ArcMap geobase Attributes table to the following Spillman tables:

- Geobase Street Segments (gbstreet)
- Geobase Street Names (gbstname)
- Street Zone Detail window (gbzone)

The **Create Text Files** tool performs the following functions:

- Creates one gbstreet record for each street segment created in ArcMap. It also obtains the beginning and ending house numbers for

the segment from the geobase table and saves them in the **Number** fields of the `gbstreet` record, as shown in the following example.

gbstreetGeobase Street Segments

File Edit Search Tools Help

GB

Geobase
Street Segments

Exit Srch Mod Add Clr Del View List Toll Prt Back Fwd Jadd

Invl Orig Use

Street Segment

Segment ID: 109
Street Name: 18TH ST
Akas: 18TH ST

Details

Prefix:
City Code: PIE Pierre Even ZIP: Odd ZIP:
Origin Code:
Street Side: B
Directions:
Location:

Segment	X Coord	Y Coord	Number	Abs X	Abs Y
Starts at:	-42141	-70600	200	-42141	-70600
Ends at:	-43041	-69899	299	-43041	-69899

Zones	Layer	Odd	Even	Layer	Odd	Even	Layer	Odd	Even
	LZ	SOUTH	SOUTH	LA	SOUTH	SOUTH	FZ	FSOUT	FSOUT
	FA	FSOUT	FSOUT	EZ	ESOUT	ESOUT	EA	ESOUT	ESOUT

User: train2 Modify the current record OVR

The geobase Attributes table provides the x- and y-coordinates.

- Creates one `gbstname` record for each complete street name entered in ArcMap. The `gbstname` record lists all segments defined for one street

name. It also lists all street aliases defined for that street, as shown in the following example.

The screenshot shows the 'Geobase Street Names' window. The 'Street' tab is active, displaying the following information:

Street Name:

Street Alias	House Numbers	Cty	Soundex
ELDER ST	0	0	aldrst

The 'Segments' tab is also visible, showing a table of street segments:

Cty	Side	Number	Begin		End		
			X Coord	Y Coord	Number	X Coord	Y Coord
SFD	B	100	-36312	10511	125	-35212	10511
SFD	B	200	-35212	10511	210	-34112	10412
SFD	0	301	-34112	10412	329	-32812	10511
SFD	E	304	-34112	10412	330	-32812	10511
SFD	B	400	-32812	10511	410	-31112	10412
SFD	B	500	-31112	10412	529	-27587	10033

User: train2 | Search for specific records | OVR Rec 1

- Using information from the geobase Attributes table, at least one gbsaka record is created for each complete street name. The gbsaka record defines the trivial alias, which is the same as the street name itself, as shown in the following example.

The screenshot shows the 'gbsaka Alias Street Names' window. The 'Street' tab is active, displaying the following information:

Street Name:

Street Alias: Soundex:

City:

Street Prefix:

Start House Number:

Final House Number:

The 'Segments' tab is also visible, showing a table of street segments:

Cty	Side	Number	Begin		End		
			X Coord	Y Coord	Number	X Coord	Y Coord
SFD	B	100	20292	13112	150	19165	13101

User: train2 | Modify the current record | OVR

TIP

In the `gbsaka` record on [page 102](#), the starting and ending house numbers are 0,0 because the trivial alias applies to the entire street. The software interprets a 0 in the **Start House Number** and **Final House Number** fields as a trivial alias.

The Spillman software creates the trivial alias for sound-alike searches. Other street aliases can be defined in the street alias table in ArcMap. For more information, see “[Entering information in an alias table](#)” on [page 127](#).

Adding a geobase layer to ArcMap to draw streets

To draw streets on the map, add a geobase layer to ArcMap.

1. Create a shapefile for the zone. See “[Creating a shapefile in ArcCatalog](#)” on [page 88](#).
2. Save the file to the directory containing your ArcGIS files.
3. Add the shapefile to your map as a geobase layer. See “[Adding a layer in ArcMap](#)” on [page 95](#).

Required fields for the geobase Attributes table

To transfer data from ArcGIS to Spillman, the geobase Attributes table must contain the fields listed in the following table. Add each field to the geobase Attributes table.

Field name	Type	Length	Field is for
Street	Text	30	The actual street name.
Fromleft	Long Integer	5	The starting house number (an integer) for the left side of the street. To accommodate future construction, use the lowest <i>potential</i> starting house number when entering street information.
Toleft	Long Integer	5	The ending house number (an integer) for the left side of the street. To accommodate future construction, use the highest <i>potential</i> ending house number when entering street information.
Fromright	Long Integer	5	The starting house number (an integer) for the right side of the street. To accommodate future construction, use the lowest <i>potential</i> starting house number when entering street information.
Toright	Long Integer	5	The ending house number (an integer) for the right side of the street. To accommodate future construction, use the highest <i>potential</i> ending house number when entering street information.

Field name	Type	Length	Field is for
Side	Text	1	The side of the street the house number is located on, such as the even or odd side of the street.
Lcitycd	Text	3	The left city code for each street segment. A city code must be entered for each street record. Otherwise, problems may occur when loading your data into Spillman.
Rcitycd	Text	3	The right city code for each street segment. A city code must be entered for each street record. Otherwise, problems may occur when loading your data into Spillman.
Location	Text	20	Directions helpful in finding the address. Up to 20 characters are allowed.
OID (Object ID)			The object identification number (OID) for the street segment. This field is generated by ArcGIS. The software assigns a unique number to each street segment to identify it in both ArcGIS and Spillman. After the ArcGIS data is transferred to the Spillman database, do not change the value in this field.
Shape	Text	5	Indicating the type of graphical element used on the layer. This field is generated by ArcGIS. The geobase layer contains lines that represent streets. ArcGIS categorizes these lines as <i>polylines</i> . Therefore, the Shape field of the geobase Attributes table contains the word <i>polyline</i> .
Lzip*	Long Integer	(Value of longest ZIP)	The left ZIP Code for the street segment.
Rzip*	Long Integer	(Value of longest ZIP)	The right ZIP Code for the street segment.
Lprefix**	Text	5	The prefix for the left side of the street. Use this field if your agency uses grid-based addressing.
Rprefix**	Text	5	The prefix for the right side of the street. Use this field if your agency uses grid-based addressing.
* The field is optional.			
** If using grid-based addressing, then the Lprefix and Rprefix fields are required.			

If the geobase Attributes table does not contain these fields, then they must be added. For more information, see [“Adding fields to a layer Attributes or dBASE table in ArcMap”](#) on page 362.

Drawing streets

If creating your own geobase layer, refer to your ArcMap documentation for instructions on drawing streets and using the various tools available in ArcMap.

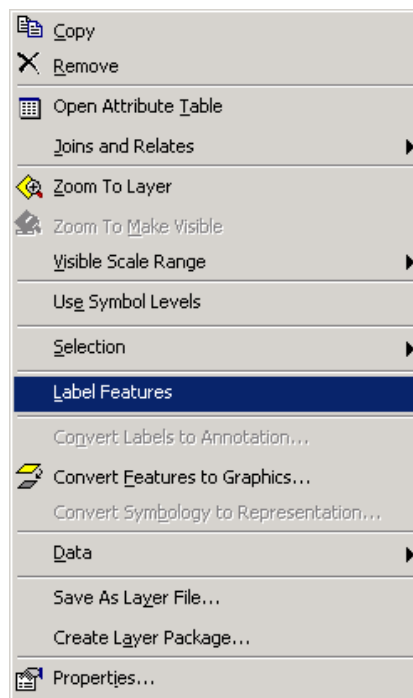
In addition, use the following tips when drawing streets:

- Before drawing street segments, use the **Zoom** tools to make sure you are working within a viewing distance of 1/2 to 3/4 mile of the geobase layer.

NOTE

A viewing distance that is too large can give an inaccurate picture of street segments. For example, it may seem that an intersection is being drawn, when in fact the streets never cross.

- Use the drawing tools in ArcMap to draw streets. Select the **Create New Features** tool to make all street segments straight lines.
- Draw streets with the snap feature turned on to ensure streets do not overlap and the map is accurate. See your ArcMap documentation for instructions on activating the snap feature.
- Draw each street segment in the direction that house numbers increase. Otherwise, address directions must be swapped later. See [“Reversing street segments” on page 107](#).
- Auto-label streets on your map to keep track of where you are. To auto-label the map, right-click the geobase layer on the map’s table of contents, and then click **Label Features**.



- While drawing streets, save the geobase layer *frequently* by selecting **Editor > Save Edits**.
- For each street segment drawn, enter the appropriate information in the blank record that ArcMap creates in the geobase Attributes table. See [“Entering information in the geobase Attributes table” on page 106](#).
- Do not use punctuation or special characters in the geobase Attributes table. When ArcGIS data is transferred to Spillman, the information from the geobase Attributes table displays in the Spillman software exactly as it appears in ArcGIS. Therefore, punctuation marks and special characters can cause problems in Spillman.

Entering information in the geobase Attributes table

The geobase layer consists of the following elements:

- The map of your agency’s streets displayed in the project’s data frame window.
- An Attributes table containing your agency’s street data. The actual name for this table varies according to agency.

Each agency can name its geobase layer differently. Therefore, this manual uses the generic term *geobase Attributes table* to refer to the table. For ArcGIS data to transfer to the Spillman database correctly, the geobase Attributes table must include the fields listed in [“Required fields for the geobase Attributes table” on page 103](#).

NOTE

ArcMap generates the data for the **OID** and **Shape** fields.

When a street is drawn, ArcMap creates a blank record for that street segment at the bottom of the geobase Attribute table. The **Fromleft**, **Toleft**, **Fromright**, and **Toright** fields contain the value 0.

To enter information in the geobase Attributes table:

1. From the map’s table of contents, right-click the geobase layer, and then select **Open Attribute Table**.

The geobase Attributes table opens.

2. From the Editor toolbar, click **Editor > Start Editing**.

- At the bottom of the geobase Attributes table, find the newly generated blank record.

FID	Shape	ID	DIRNUM	SIDE	ORIGIN	STSEID	STREET	FROMLEFT	TOLEFT	FROMRIGHT	TORIG
5019	Polyline			B	0	5162	WRIGHT	515	525	514	
5020	Polyline			B	0	5163	WRIGHT	531	535	530	
5021	Polyline			B	0	5164	WYERS D	115	117	110	
5022	Polyline			B	0	5165	YORK ST	101	199	100	
5023	Polyline			B	0	5166	YORK ST	201	299	200	
5024	Polyline			B	0	5167	YORK ST	351	399	352	
5025	Polyline			B	0	5168	YORK ST	301	349	302	
5026	Polyline			B	0	5169	YORK ST	401	499	400	
5027	Polyline			B	0	5170	YORK ST	501	599	500	
5028	Polyline			B	0	5171	YORK ST	601	699	600	
5029	Polyline			B	0	5172	YORKSHI	1	25	2	
5030	Polyline			B	0	1236	DAVIS ST	503	507	502	
5031	Polyline			B	0	1236	DAVIS ST	509	519	510	
5032	Polyline			B	0	3334	OLD CHIS	3601	3609	3600	3
5033	Polyline			B	0	3334	OLD CHIS	3611	3629	3612	3
5034	Polyline							0	0	0	

- In each field of the blank record, enter information for the street segment.
- From the Editor toolbar, select **Editor > Save Edits**.

Reversing street segments

If a street segment is accidentally drawn in the wrong direction, such as from left to right but the house numbers ascend from right to left, then the addresses in that segment are incorrect in ArcMap.

To locate and correct street segments drawn in the wrong direction, do the following steps after streets are drawn in the geobase layer:

- “Locating reversed street segments” on page 107
- “Reversing the street direction” on page 112

Locating reversed street segments

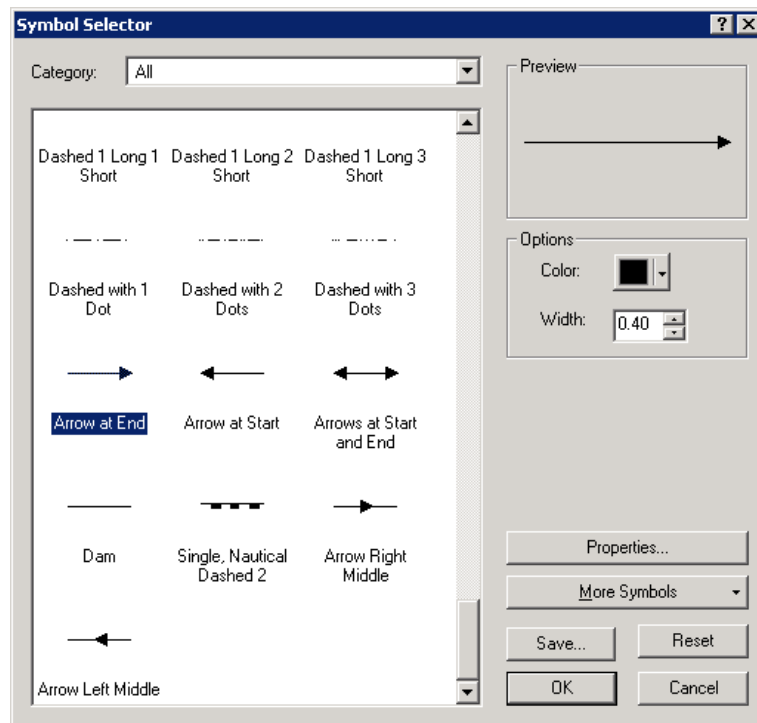
To locate reversed streets segments:

- From the table of contents in ArcMap, right-click the geobase layer, and then select **Properties**.

The Layer Properties dialog box opens.

- Click the **Symbology** tab.
- Double-click the street symbol.

The Symbol Selector dialog box opens.



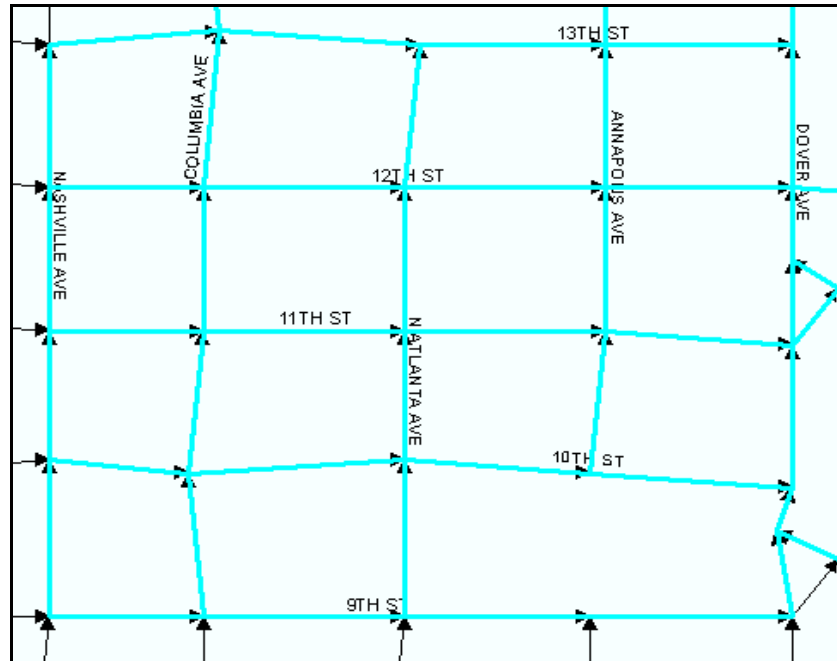
4. Scroll down to select the **Arrow at End** option.
5. Click **OK**.

The street line symbol displays on the map accordingly.

6. From your map, select a section where most street segments run in the same direction.

For example, in the following map, street segments located north of 9th Street and east of Nashville Avenue generally run either

south-to-north or west-to-east. Therefore, all street segments in this location should be selected.



7. From the Spillman toolbar, click the **Locate Reversed Streets** icon.

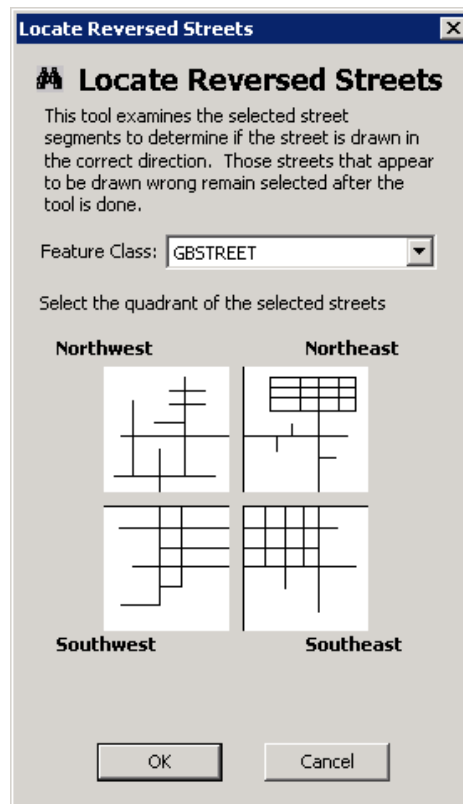


Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

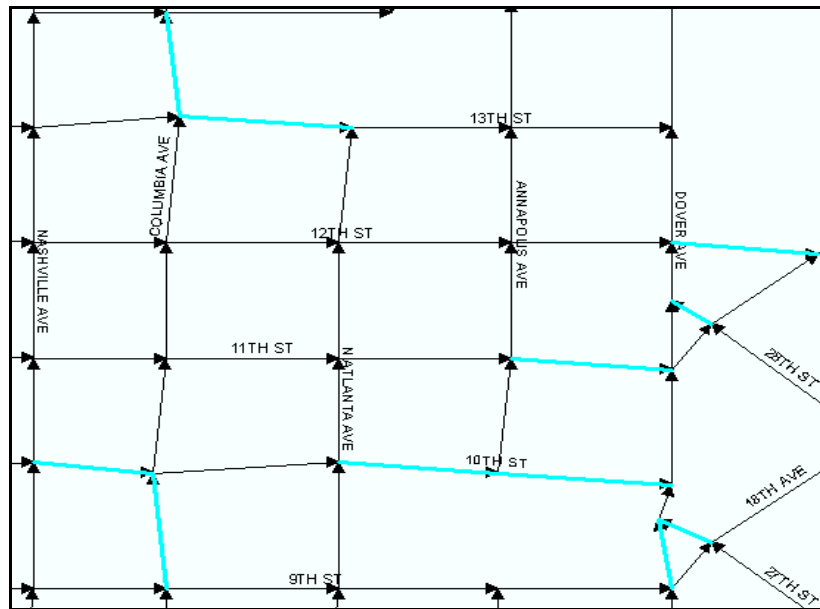
The Locate Reversed Streets dialog box opens.



8. In the **Feature Class** field, select the name of the street table. For example, **GBSTREET**.
9. In the **Quadrant** area, select the quadrant of the map containing the street directions that match the streets selected on the map. For example, **Northeast**.
10. Click **OK**.

A dialog box opens, displaying the message: Locating Reversed Streets.

All street segments that meet the search criteria entered are deselected. Street segments that do not meet the search criteria remain selected, as shown in the following example.



11. Carefully examine each selected street segment to verify that it should be reversed. Deselect all street segments that should not be reversed.

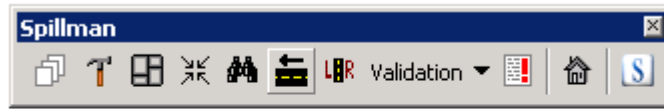
CAUTION

In determining which street segments should be reversed, the software considers only your search criteria. Each selected segment must be visually verified that it should be reversed. For example, based on the search criteria entered, the software might select curved or irregular streets that are drawn *correctly*. Deselect these street segments before running the **Reverse Street Direction** tool. Visually verifying each selected street segment ensures accuracy of your map.

Reversing the street direction

To reverse the direction of incorrectly drawn street segments:

1. From the Spillman toolbar, click the **Reverse Street Direction** icon.



Reverse Street Direction

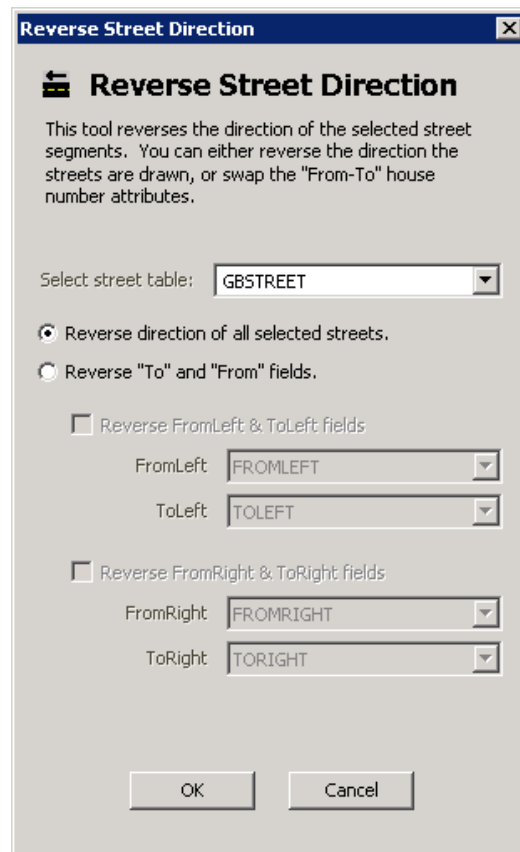
Spillman Classic toolbar for ArcGIS 9.3



Reverse Street Direction

Spillman Classic toolbar for ArcGIS 10

The Reverse Street Direction dialog box opens.



2. Do one of the following:

- To change the spatial data on the map, and all selected street segments are verified to be reversed, select **Reverse direction of all selected streets**.
- To change the tabular data in the geobase Attributes table, select **Reverse “To” and “From” fields**.
 - In the **Select street table** field, select the desired street layer.
 - To reverse the numbers on the left side of the street in the geobase Attributes table, select the **Reverse FromLeft & ToLeft fields** check box. In the **FromLeft** and **ToLeft** fields, select the equivalent fields from the geobase Attributes table.
 - To reverse the numbers on the right side of the street in the geobase Attributes table, select the **Reverse FromRight & ToRight fields** check box. In the **FromRight** and **ToRight**

fields, select the equivalent fields from the geobase Attributes table.

3. Click **OK**.
 - If **Reverse direction of all selected streets** is selected, then the direction of each selected street segment is reversed. However, street segments display in blue, indicating they are still selected. To deselect the reversed street segments, select the **Select Features** tool and click anywhere on the map.
 - If **Reverse “To” and “From” fields** is selected, then values in the “To” and “From” fields are switched.
4. From the Editor toolbar, select **Editor > Save Edits**.



Splitting streets

When creating your map, streets may need to be split into multiple segments. Use the following information when splitting streets:

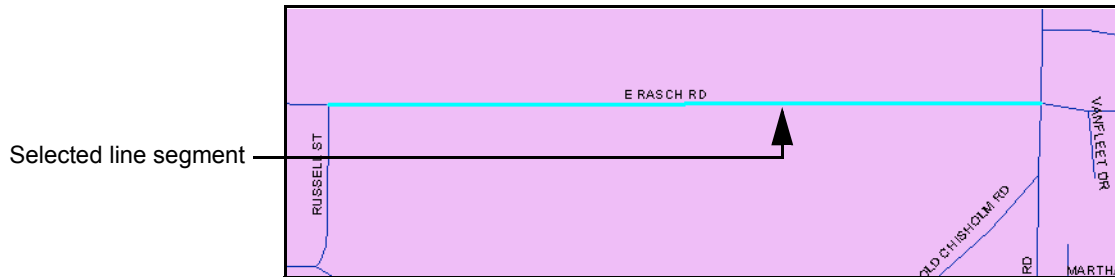
- [“Splitting streets into multiple segments” on page 114](#)
- [“Determining where to split streets into multiple segments” on page 354](#)

Splitting streets into multiple segments

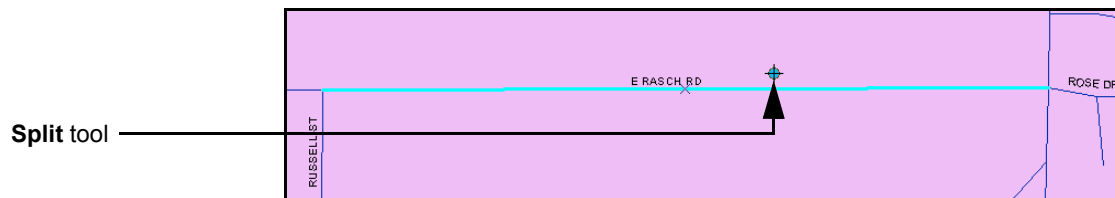
To split street into multiple segments:

1. Select the geobase layer.
2. From the Editor toolbar, select **Editor > Start Editing**.
If the street shapefile has been converted to a geodatabase file, then the software opens the Start Editing dialog box.
3. In the **Type** area, select **File Geodatabase**.
4. Click **OK**.
5. Select the **Select Features** tool () , and then select the street segment on the map to split.
6. From the Editor toolbar, select the **Split** () tool.

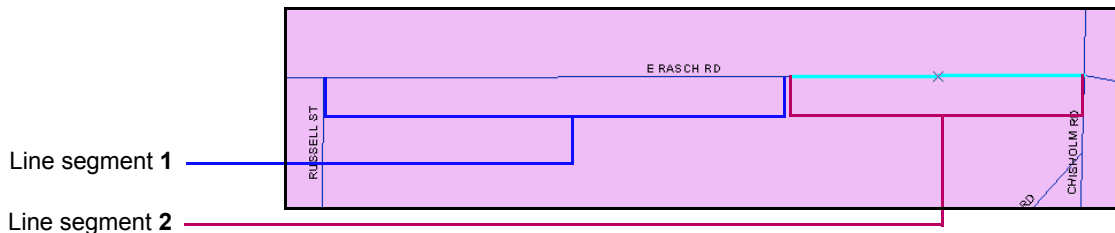
ArcMap highlights the selected line segment. If the selected segment is incorrect, then click the correct one.



7. Click on or above the selected line to split the street at the desired point.



8. To verify that the original street segment has been split, select one of its new segments.



9. From the Editor toolbar, select **Editor > Save Edits**.

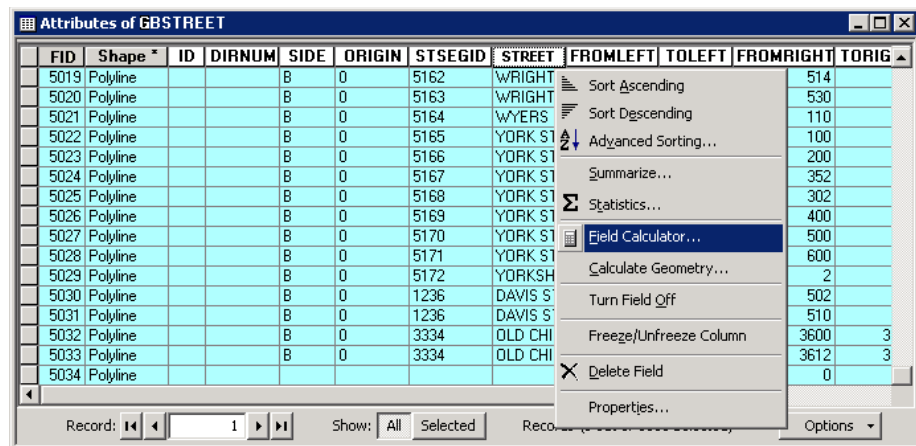
Combining fields in the geobase Attributes table

The geobase Attributes table may contain two fields that can be combined. For example, to know the house numbers on the left side of the street, the **Street** field and **Fromleft** field could be combined for the street range.

To combine two fields in the geobase Attributes table:

1. Select the geobase Attributes table.

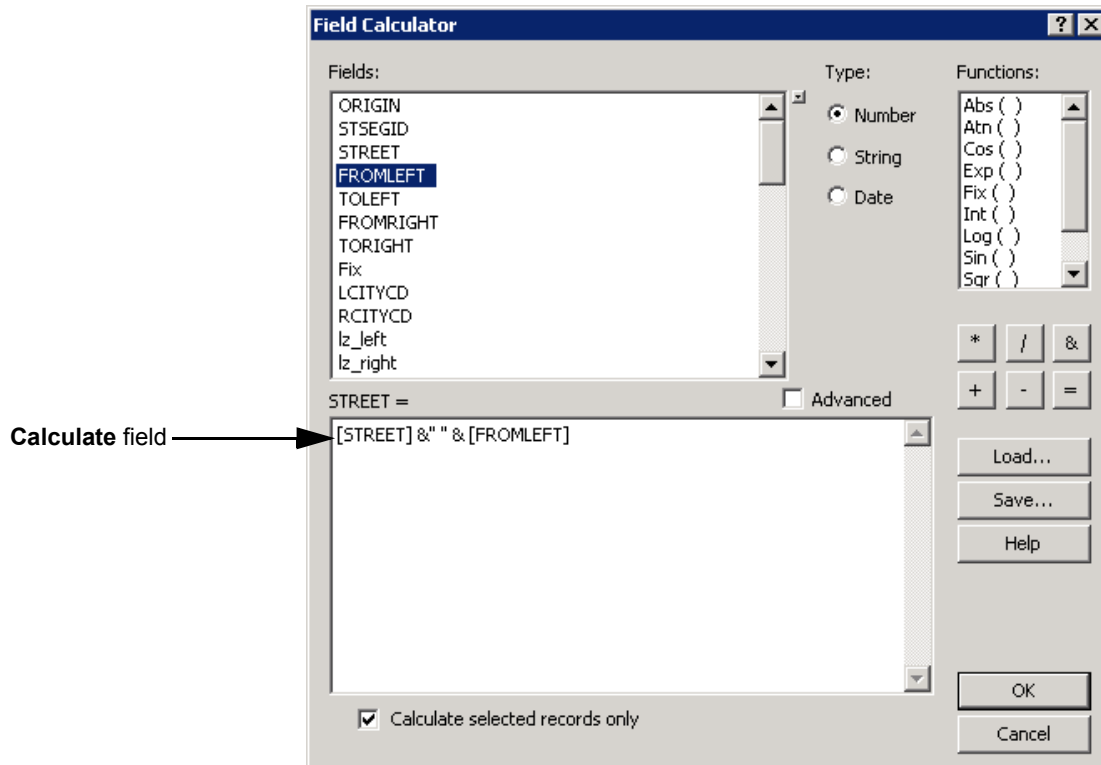
2. From the Editor toolbar, select **Editor > Start Editing**.
3. From the geobase Attributes table, select **Options > Select All**.
All street records are selected in the geobase Attributes table.
4. Right-click the field that will receive the combined values. If the field does not exist, add it. For more information, see [“Adding fields to a layer Attributes or dBASE table in ArcMap”](#) on page 362.
5. Right-click the new field, and then select **Field Calculator**.



The Field Calculator dialog box opens.

6. In the **Calculate** field, do the following to enter the command to combine two fields:
 - In the **Fields** area, double-click the first field to combine.
 - Click the ampersand sign to enter an ampersand (&).
 - Enter quotation marks, a space, and then quotation marks (" ").
 - Click the ampersand sign to enter another ampersand (&).
 - In the **Fields** area, double-click the second field to combine.

The specified command displays in the **Calculate** field, as shown in the following example.



7. Click **OK**.

ArcMap combines the field values.

Geobasing apartment and office buildings

An address is considered geobased when it is assigned a unique address identification number, called an Address ID. Address IDs are used throughout the software to reference each address and information related to that address.

To geobase an apartment or office building, the following methods are used:

- When ArcMap is used to draw street segments and to enter their information, the Spillman software can geobase every address on that street segment.
- When a street segment uses an address in the Spillman software, such as in a Name record or a Law Incident record, it is assigned an Address ID.

- If an address layer is created, then address information can be transferred to Spillman using the `gbload` program. A record, with an assigned Address ID, is created in the Geobase Address Maintenance table (`gbaddr`) for each address.


To determine how apartment and office buildings will be defined, see [“Defining apartment and office buildings” on page 357](#).

Geobase apartment and office buildings *after* street segments for that building are added.

NOTE

The exact x-, y-coordinates of an apartment or office building must be known to define it. If coordinates are known at this time, then the building can be defined now. Otherwise, the building must be defined *after* the geobase data is transferred from ArcMap into the Practice database in Spillman. Once the data is in the Practice database, use the `addr` utility in Spillman to determine the x-, y-coordinates of the building or complex. For more information, see [“Verifying addresses” on page 239](#).

To geobase an apartment or office building:

1. Open the geobase layer in ArcMap.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. Use the **Zoom In** () tool to display a close-up of the street segment the building is on. Only a tiny line segment is drawn for the apartment or office building. If the map is viewed from far away, then a long line segment will inadvertently be drawn.
4. Close to the street segment, draw a line segment from the beginning x-, y-coordinates of the apartment or office building to the ending x-, y-coordinates of the building.

A blank record is added to the geobase Attributes table for the new street segment.
5. Select the geobase Attributes table.
6. From the Editor toolbar, select **Editor > Start Editing**.
7. At the bottom of the table, view the new street segment record.
8. In each field of the blank record, enter the appropriate value.
9. In the **Street** field, enter the address of the apartment or office building as the street, followed by a caret symbol (^).
10. In the **Fromleft**, **Toleft**, **Fromright**, and **Toright** fields, enter the beginning and ending, even and odd apartment numbers.
11. From the Editor toolbar, select **Editor > Save Edits**.

Distinguishing apartment and office building lines from street lines

To distinguish lines that represent an apartment or office building from street lines, do the following:

- All apartment or office records must first be marked. See [“Marking apartment records” on page 119](#).
- After records are marked, color schemes can be chosen for lines that represent apartment or office buildings and streets. See [“Choosing color schemes for lines representing apartment buildings and streets” on page 120](#).

Marking apartment records

To mark apartment records:

1. Open the geobase Attributes table.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. In the geobase Attributes table, add an **Apartment** field. For more information, see [“Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362](#).

The Add Field dialog box opens.

4. In the Add Field dialog box, do the following:
 - In the **Name** field, enter a word that signifies apartment. For example, **Apt** or **Apartment**.
 - In the **Type** field, enter **Long Integer**.
5. Select all apartment records.

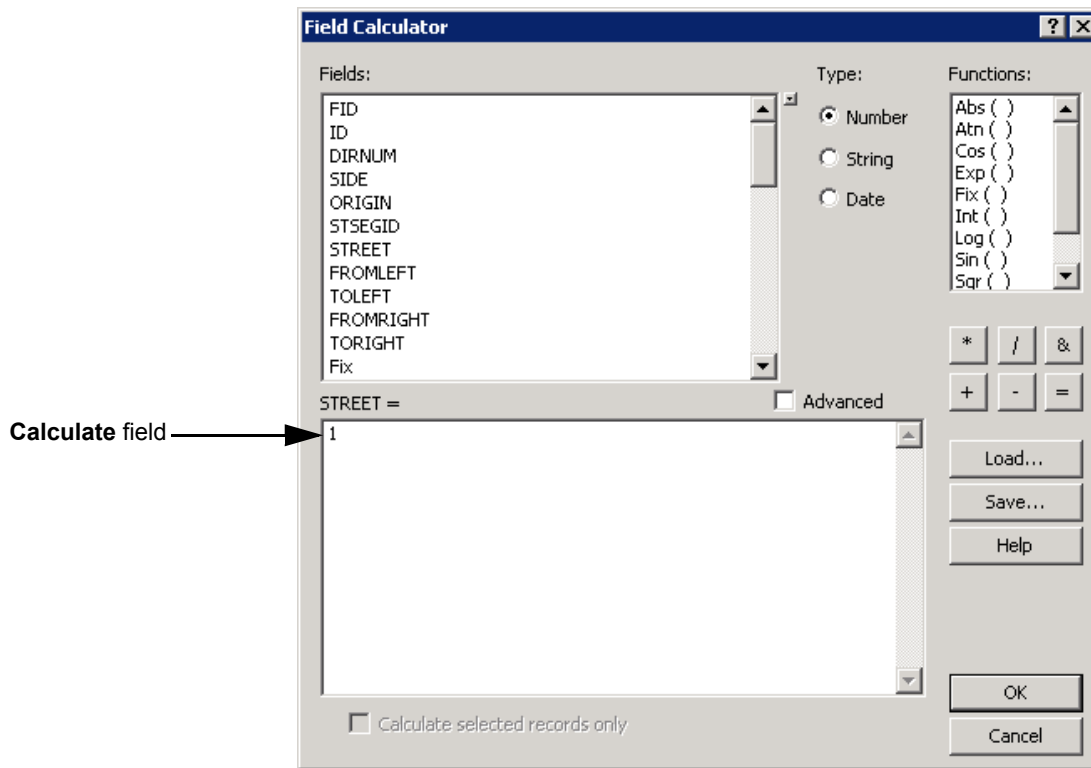
NOTE

If drawing your map and building your geobase from scratch, then the **Apartment** field value can be entered when each street and apartment record is added to the geobase Attributes table. For more information, see [“Entering information in the geobase Attributes table” on page 106](#).

6. Right-click the **Apartment** field, and then select **Calculate Values**.

The Field Calculator dialog box opens.

7. In the **Calculate** field, enter one value, which can be any number or letter, for all line records that represent apartments. In the following example, the value **1** is used.



8. Click **OK**.

The specified value is entered in the **Apartment** field of the selected records.

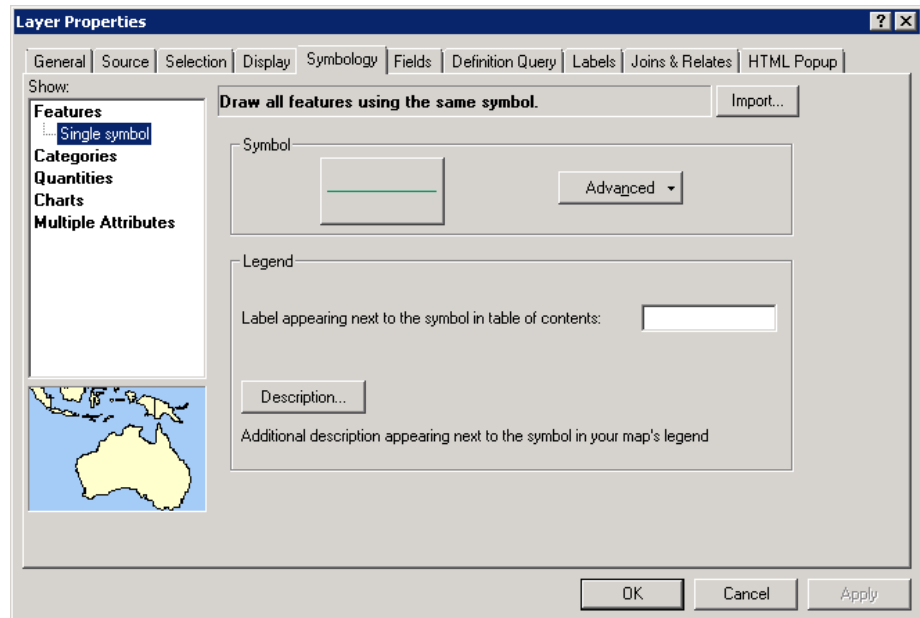
Choosing color schemes for lines representing apartment buildings and streets

Once apartment or office building records are marked, a color scheme can be designated for lines representing apartment or office buildings and streets, which the software will use on polylines on the geobase layer.

To choose color schemes for apartments and street lines:

1. From the table of contents in ArcMap, right-click the geobase layer, and then select **Properties**.

The Layer Properties dialog box opens.

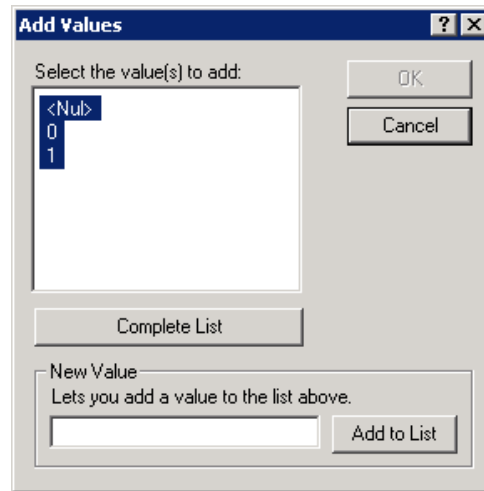


2. Click the **Symbology** tab.
3. From the Show menu, select **Categories**.
4. From the displayed list, select **Unique values**.

Symbol information for your street layer populates in the **Symbol**, **Value**, **Label**, and **Count** fields.

5. In the **Label** field, change the default to **Streets**.
6. In the **Value Field** area, select the **Apartment** field.
7. In the **Color Ramp** area, select a color scheme from the list.
8. Click **Add Values**.

The Add Values dialog box opens.



9. Select the value to represent apartments.
10. Click **OK**.

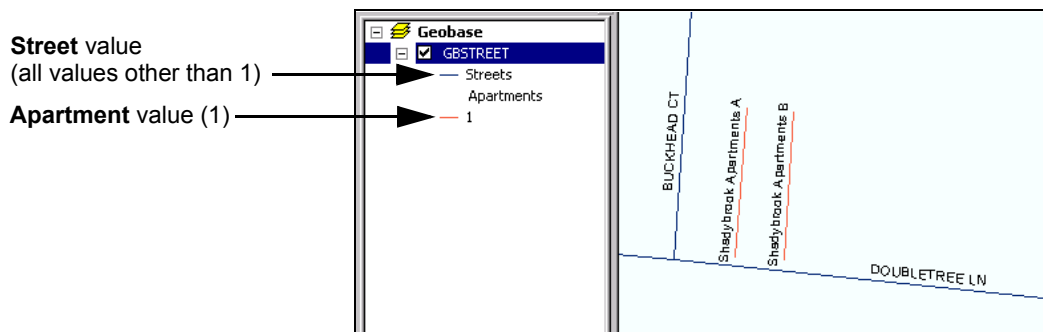
Symbol information for the apartment is entered in the **Symbol**, **Value**, **Label**, and **Count** fields.

NOTE

To change the actual symbol or color value for a single symbol, double-click the symbol from the table of contents in ArcMap. The Symbol Selector dialog box opens. In the dialog box, select a different symbol or color, and then click **OK**. For more information, refer to your ArcMap documentation.

11. Click **OK**.

The street colors on the map are changed accordingly, and the table of contents displays the line color for each street type



Setting Up the Alias Table and Common Place Tables

All street alias names are added in the street alias table. However, it is unnecessary to create a layer for this table. A street alias is any name other than the actual street name that can be used to refer to that street. A street can have more than one alias, and each alias must be entered into the software.

In addition, common place tables and layers are created. A common place is a commonly used address in your jurisdiction, and can include community landmarks, frequented businesses or restaurants, and other commonly referenced locations. A separate layer is created for each type of common place.

Use the following information when setting up the alias table and common place tables:

- “Creating the gbsaka record in Spillman from ArcGIS” on page 123
- “Adding an alias layer” on page 125
- “Required fields for an alias layer” on page 125
- “Adding alias records to an alias table” on page 126
- “Running the Alias Update tool” on page 130

Creating the gbsaka record in Spillman from ArcGIS

When the **Alias Update** tool is run, it converts the ArcGIS data into a Spillman-compatible format. Information is then extracted from the ArcMap alias table and saved to the Alias Street Names table (gbsaka) in Spillman.

A gbsaka record is created for the following:

- Every street alias, as shown in the following example.

The screenshot shows the 'Alias Street Names' window with the following data:

Street							
Street Name:		ETIA GRAY DR			Soundex: gradr		
Street Alias:		GRAY DR					
City:							
Street Prefix:							
Start House Number:		0					
Final House Number:		0					

Segments							
Cty	Side	Number	Begin		End		
			X Coord	Y Coord	Number	X Coord	Y Coord
SFD	B	100	20292	13112	150	19165	13101

User: train2 | Modify the current record | OVR

- Every common place, as shown in the following example.

The screenshot shows the 'Alias Street Names' window with the following data:

Street							
Street Name:		FLORENCE BLVD			Soundex: banapat		
Street Alias:		BAMA PIT					
City:		SFD Springfield					
Street Prefix:							
Start House Number:		844					
Final House Number:		844					

Cty	Side	Number	Begin		End		
			X Coord	Y Coord	Number	X Coord	Y Coord
SFD	B	700	-20512	-10588	765	-20612	-9889
SFD	E	840	-20612	-9889	852	-21012	-8088
SFD	O	845	-20612	-9889	853	-21012	-8088
SFD	B	854	-21012	-8088	888	-21312	-6388
SFD	B	889	-21312	-6388	900	-21512	-5389
SFD	B	901	-21512	-5389	909	-21412	-4841

User: train2 | Go forward in current settable | OVR

TIP

For a common place, the starting and ending house numbers are usually the same number.

Adding an alias layer

In ArcMap, each layer can contain only one type of line style. Since the geobase layer uses polylines, and common places are drawn with points, common places cannot be added on the geobase layer. Instead, a separate layer needs to be created for each type of common place to be plotted on the map. For example, separate layers may be created for churches, schools, restaurants, government buildings, landmarks, and so forth.

Determine in advance the type of common place tables to add on the map. For example, a common place table could be added for all common places on the map, or a common place table could be added for each category of common place on the map.

To add an alias layer:

1. In ArcCatalog, create an alias dBASE table (an alias table) to store street or common place aliases. For more information, see [“Creating a dBASE table in ArcCatalog” on page 358](#).
2. Save the dBASE file to the directory containing other ArcGIS files.
 - If fields are added at the time the dBASE table is created, then use the fields listed in [“Required fields for an alias layer” on page 125](#).
3. Add the dBASE file to your map. For more information, see [“Adding a dBASE table to ArcMap” on page 360](#).
 - If fields are added after the dBASE table is added to ArcMap, then use the fields listed in [“Required fields for an alias layer” on page 125](#).
4. Repeat steps 1–3 for each type of alias layer, such as street aliases and common place aliases.

Required fields for an alias layer

For your ArcGIS data to be compatible with Spillman, the following fields must be added to your alias table.

Field name	Type	Length	Field is for
Street	Text	30	The actual street name. For example, North Broadway.
Alias	Text	30	The alias name. For example, if a segment of North Broadway is commonly referred to as University Drive, then enter University Drive . If entering an alias for a common place that has punctuation, remove the punctuation. For example, for McDonald’s, enter McDonalds .

Field name	Type	Length	Field is for
Citycd	Text	3	The city code. Enter the city code for the city where the street segment is located. For example, if University Drive is located in Springfield, and the city code for Springfield is SFD , then enter SFD .
Begnumb	Long Integer		The beginning address number for the alias street or the address number for the common place. For example: <ul style="list-style-type: none"> • Street Alias. If the segment of North Broadway, which is also known as University Drive, begins at 301, then enter 301. • Common Place Alias. If entering a record for a McDonald's located at 810 Dixie Avenue, then enter 810.
Endnumb	Long Integer		The ending address number for the alias street or the address number for the common place. For example: <ul style="list-style-type: none"> • Street Alias. If the segment of North Broadway, which is also known as University Drive, ends at 525, then enter 525. • Common Place Alias. If entering a record for a McDonald's located at 810 Dixie Avenue, then enter 810.
Fulladdr*	Text	40	The house number and the street address. This field must be added if your common place tables are going to be geocoded. It can be added now or later. See “Creating a full address field on the common place or address table” on page 148.
Prefix**	Text	5	The prefix for the street. Use this field if your agency uses grid-based addressing.
* If the common place tables will be geocoded, then the Fulladdr field is required.			
** If using grid-based addressing, then the Prefix field is required.			

Adding alias records to an alias table

When adding alias records to an alias table, use the following information:

- [“Choosing appropriate aliases”](#) on page 126
- [“Entering information in an alias table”](#) on page 127
- [“Applying an alias to only part of a street”](#) on page 129

Choosing appropriate aliases

Use the following guidelines to help determine appropriate aliases:

- If any subsequent words in the actual street name are more important than the first word, add aliases that start with those other words, as illustrated in the following examples:

- For North Capitol Drive, enter the alias **Capitol Drive**.
- For East College View Drive, enter the alias **College View Drive**.
- If users might search by one of the subsequent words, regardless of the relative importance of that word, then enter an alias starting with that word, as illustrated in the following examples:
 - For Seattle Slew's Triple Crown Dr, enter the aliases **Slews Triple Crown** and **Triple Crown**.
 - For Atchison-Topeka-Santa Fe Drive, enter the aliases **Atchison Drive**, **Topeka Drive**, and **Santa Fe Drive**.
- Add an alias if its first word is unusual, as illustrated in the following examples:
 - For Lost Explorers Cave Road, enter the alias **Cave Road**.
 - For a segment of road with the alias Deadmans Curve, enter the alias **Curve**.
 - For Interstate 35 South, enter the alias **South Freeway**.

Entering information in an alias table

To enter information in an alias table:

1. Open your map in ArcMap.
2. From the table of contents, click the **Source** tab.
3. Right-click the street alias or common place alias file, such as **Street Aliases**, and then select **Open Attribute Table**.
The Attribute table opens.
4. From the Editor toolbar, select **Editor > Start Editing**.
A record line is added to the table in which the first alias record can be added. The editor symbol appears next to the **Options** button, indicating that the table is in editing mode.
5. For each field of the blank record, enter the appropriate information.
 - If creating a street alias table, add the following information for each street alias:
 - The actual street name. For example, **N Broadway**.
 - The street alias. For example, **University Drive**.
 - The city code. For example, **SFD**.

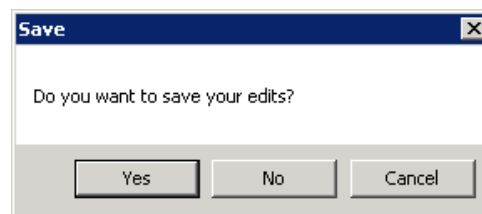
- The beginning (lowest) house number of the street segment the alias applies to, or enter **0** if the alias applies to the entire street.
- The ending (highest) house number of the street segment the alias applies to, or enter **0** if the alias applies to the entire street.
- If creating a common place table, add the following information for each common place alias:
 - The actual street name. For example, **Dixie Avenue**.
 - The name of the location. For example, **McDonalds**.
 - The city code. For example, **SFD**.
 - The address number in the **Begnumb** and **Endnumb** fields. For example, **815**.
- If the common place table will be geocoded, enter the full address in the **Full Address** field for each common place alias record. For example, **815 Dixie Avenue**.

NOTE

When adding a record, the software generates another blank record and the object identification number in the **OID** field. Do not be concerned if OID numbers are not generated in order.

6. Continue adding records to the alias table until all alias records that pertain to the alias table are added.
7. From the Editor toolbar, select **Editor > Stop Editing**.

The Save dialog box opens.



8. Click **Yes**.

To load the data from your street and common place tables into the Spillman software, the **Alias Update** tool must be run on each alias table. For more information, see [“Running the Alias Update tool” on page 130](#).

Applying an alias to only part of a street

If part of a street is referred to by a different alias than the rest of the street, then a separate record needs to be created in the street alias table for it, with the range of house numbers specified.

For example, if a section of 28th Street is also known as Bunderson Avenue, and includes addresses 800–1089, then a separate record is created in the alias table for Bunderson Avenue with the specified address range.

To apply an alias to only part of a street:

1. In the alias table, define the alias section separately from the rest of the street.
2. In the **Begnumb** and **Endnumb** fields, enter the address range, instead of zeros (0), for the part of the street the alias applies to.


The alias applies only to the part of the street specified by the address range.

Creating street alias records with grid-based addressing

If using grid-based addressing, then the **Prefix** field must be created on the alias table. Address records are entered for grid-based addresses the same way as direction-based addresses. For more information, see [“Entering information in an alias table” on page 127](#) and [“Applying an alias to only part of a street” on page 129](#).

When entering street alias and common place records, use the following guidelines:

- A **Prefix** field must be created in the alias table.
- When entering street aliases, and the street contains a left and right prefix, two street alias records must be created—one for each prefix. For example, the following street record contains two, separate prefixes.

1	W150N Darby Drive	199
		
2	W151N Darby Drive	200

Running the Alias Update tool

The first time the **Alias Update** tool is run on an alias table, it generates a master alias table (`alias.dbf`.) When the `gbload` program, as described in [Chapter 4](#), loads ArcGIS data into Spillman, the only alias table loaded into Spillman is `alias.dbf`. Therefore, the `alias.dbf` table must contain all alias records *before* information is transferred from ArcGIS into Spillman.

To copy alias records from individual alias tables into the `alias.dbf` table, run the **Alias Update** tool on each street and common place alias table created. If an alias table is modified, then run the **Alias Update** tool on that table again.

To run the **Alias Update** tool:

1. From the Spillman toolbar, click the **Alias Update** icon.

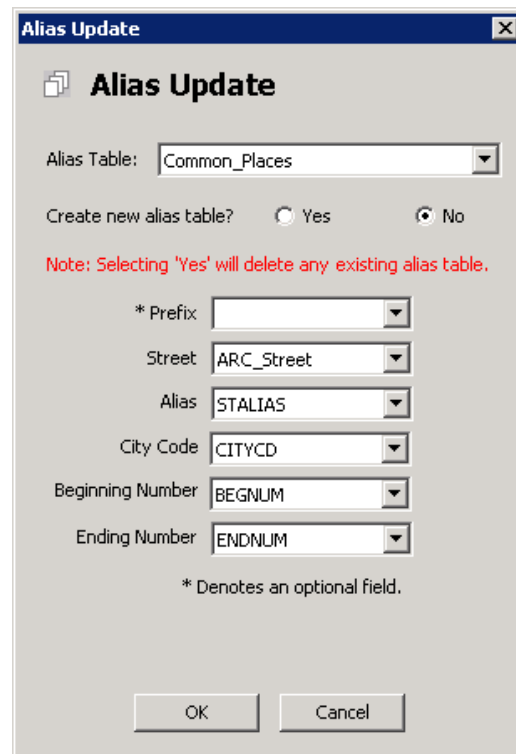


Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

The Alias Update dialog box opens.



The image shows the 'Alias Update' dialog box. It has a title bar with 'Alias Update' and a close button. Inside, there's a section titled 'Alias Update' with a folder icon. Below this, there's a dropdown menu for 'Alias Table' with 'Common_Places' selected. A radio button group for 'Create new alias table?' has 'No' selected. A red note states: 'Note: Selecting 'Yes' will delete any existing alias table.' Below this are several dropdown menus: '* Prefix' (empty), 'Street' (ARC_Street), 'Alias' (STALIAS), 'City Code' (CITYCD), 'Beginning Number' (BEGNUM), and 'Ending Number' (ENDNUM). A footnote says '* Denotes an optional field.' At the bottom are 'OK' and 'Cancel' buttons.

2. In the **Alias Table** field, select the street or common place alias table to update. For example, **Street Alias** or **City Buildings**.
3. In the **Create new alias.dbf file?** field, do one of the following:
 - Select **Yes** to create a new `alias.dbf` file. For example, if this is the first time the **Alias Update** tool is run. Be aware, selecting **Yes** will delete any existing alias table.
 - Select **No** to add the alias records from the selected table to the existing `alias.dbf` file.
4. If using grid-based addressing, in the **Prefix** field, select the prefix value from the geobase Attributes table.
5. In the **Street**, **Alias**, **City Code**, **Beginning Number**, and **Ending Number** fields, select the corresponding information from the alias table specified.
6. Click **OK**.

A dialog box opens.

7. Locate the folder designated for your map files. For more information, see [“Creating a directory for your map files” on page 81](#).
8. Click **Save**.

A prompt box opens, indicating that the `alias.dbf` file is either being created or updated, depending on the selection made in step 3.

NOTE

If **Yes** is selected in step 3, and an `alias.dbf` file already exists, then the software states that the file already exists and asks whether to replace it. Do one of the following:

- Click **Yes** to replace the existing alias table with a new alias table.
- Click **No** to keep the existing alias table.

Once the alias record is saved to the `alias.dbf` table, the software displays the number of aliases added to the alias table. To open the `alias.dbf` table, see [“Opening a dBASE table in ArcMap” on page 361](#).

9. Click **OK**.

Setting Up the Address Layer

To load addresses from ArcGIS into Spillman, create an address table or layer in ArcGIS. When the **Create Text Files** tool is later run, specify to load the address layer. The **Create Text Files** tool then creates text files (.out files) for the address table. When the `gbload` program is run, it loads the addresses into the Spillman Geobase Address Maintenance table (`gbaddr`). For more information about the **Create Text Files** tool, see [“Transferring Data from ArcGIS to Spillman”](#) on page 209.

NOTE

If addresses are maintained in ArcGIS, then your agency can control whether Spillman allows users to enter records to the Geobase Address Maintenance table (`gbaddr`). For more information, see the `gbcodadr` application parameter in [“Modifying the Application Parameters for the Geobase Module”](#) on page 51.

Spillman table related to the address layer

In Spillman, the Geobase Address Maintenance table (`gbaddr`) must contain a record for each geobased address on your map, as shown in the following example. For more information, see [“Determining if an Address is Geobased”](#) on page 30.

The screenshot shows the 'Geobase Address Maintenance' application window. The 'Address' section contains the following data:

Address ID:	481
Prefix:	
House #:	145
Suffix:	
Pre-Type:	
Pre-Directional:	
Street Name:	
Full Street:	N FULTON ST
Post-Type:	
Post-Directional:	
Occupancy Type:	
Occupancy Value:	
Cross Street:	
Intersection:	
City:	SFD Springfield
State:	ND
ZIP:	79134
User-Defined XY:	N
Coordinates: X:	11588
High Bits:	5
Y:	4445

Between: ASPEN AVE & HUNTSVILLE RD

The 'Directions' section contains:

Directions: (Only 1 or 2 lines below will be seen in CAD)

Location:

The 'Alerts' section contains:

Address Alerts:	Code	Date	Review Date
<input type="text"/>		/ /	/ /
		/ /	/ /

User: train2 | Modify the current record | OVR

Determining which type of address layer to use

At a minimum, a table containing addresses in your jurisdiction must be created to transfer address data from ArcGIS to Spillman. Points or polygons can also be used on your map to represent the addresses in your jurisdiction.

To help determine which type of address layer is best for your agency, use the following information.

- [“Using points for the address layer” on page 134](#)
- [“Using polygons for the address layer” on page 135](#)

After deciding which type of address layer to create, add that type of layer. For more information, see [“Creating a point address layer” on page 137](#) or [“Creating an address layer by using a polygon address layer” on page 141](#).

Using points for the address layer

A point address layer consists of a table that contains addresses in your jurisdiction and a point that represents each address.

To create a point address layer, do one of the following:

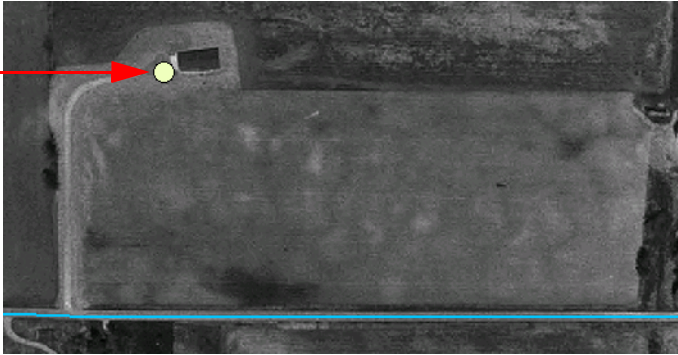
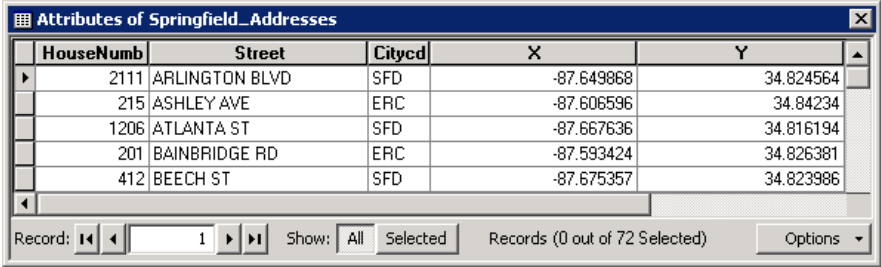
- Draw a point on the map to represent each address, and then enter address information for each point in the address Attributes table.
- Create an address dBASE table, and then display each point on the map. If x-, y-coordinates are included in the address dBASE table, then each point can be displayed in ArcMap. If x-, y-coordinates are not included, then the address dBASE table can be geocoded to make the software plot each address on the map.

The method used to create the point layer may depend on existing information.

For example, if there is an orthophotographic map layer, it may be preferred to draw each address. The orthophotographic map can be used as a reference, and a point can be drawn at the entrance to each driveway. Address information can then be entered for each point in the address Attributes table.

Alternatively, if records already exist in the Spillman Geobase Address Maintenance table (`gbaddr`), or in another source of address information in tabular form, then it may be preferred to create an address dBASE table. Each point can then be displayed in ArcMap using the x-, y-coordinates.

The following table contains an example of a point address layer on an orthophotographic map, and an address dBASE table.

Address layer	Type of tabular data	Considerations
Point layer	dBASE or layer Attributes table	<p>A point address layer can be created in the following ways:</p> <ul style="list-style-type: none"> • Draw points on the map, and then enter the corresponding tabular data into the address Attributes table. • If x-, y-coordinates are known for each address, then create or import a dBASE table. ArcMap can use the x-, y-coordinates from the table to display each point on the map. • If using a dBASE table is preferred, but x-, y-coordinates are unknown, then geocode the table to create a point address layer. <p>This layer can be used in conjunction with the orthophotographic layer.</p>
<p>Examples:</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">Address point →</div>  </div> <div style="display: flex; align-items: center; margin-top: 20px;"> <div style="margin-right: 20px;">dBASE table with x-, y-coordinates</div>  </div>		

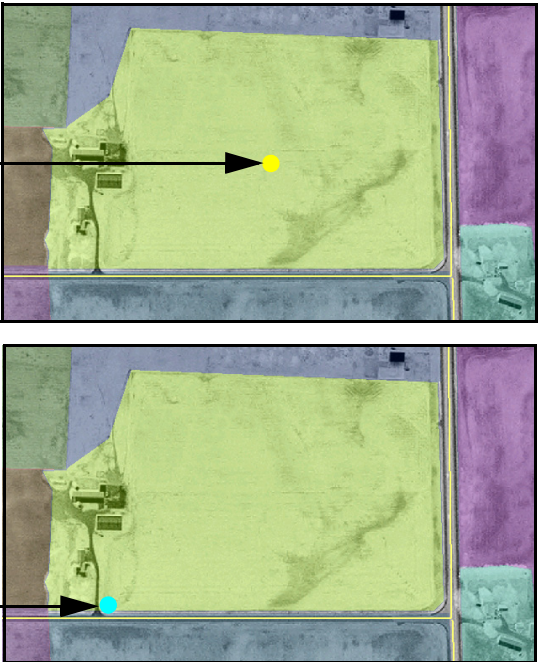
To create a point address layer, see [“Creating a point address layer”](#) on page 137.

Using polygons for the address layer

An address layer can be created to use polygons to represent land parcels. After drawing the polygon, the software can use the center point of each polygon for the x-, y-coordinates, or the X and Y fields can be created on the

address Attributes table with specific x-, y-coordinates. If a land parcel or property boundaries layer exists, using a polygon address layer may be preferred.

The following table contains an overview of a polygon address layer, an example of a land parcel on an orthophotographic map using the centroid of the parcel, and an example of an address using specific x- and y-coordinates.

Address layer	Type of tabular data	Considerations
Polygon layer	layer Attributes table	<p>A polygon address layer can be created in one of the following ways:</p> <ul style="list-style-type: none"> • Use the centroid of each polygon as the address. The x-, y-coordinates for each address do not need to be known. • If the x-, y-coordinates for an address are known, then the X and Y fields can be added to the address Attributes table with the x-, y-coordinates for the address location point. <p>This layer can be used in conjunction with the orthophotographic layer.</p>
<p>Example:</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>Address with the center point (x-, y-coordinates) of the land parcel →</p> <p>Address with specified x- and y-coordinates →</p> </div> <div>  </div> </div>		

To create a polygon layer, see [“Creating an address layer by using a polygon address layer”](#) on page 141.

Creating a point address layer

To create a point address layer, use one of the following methods:

- For each address in your jurisdiction, draw a point on the map. For more information, see [“Creating a point address layer by drawing address points on the map” on page 137](#).
- Create an address dBASE table that includes x-, y-coordinates. For more information, see [“Creating an address layer by using a dBASE table with x- and y-coordinates” on page 138](#).
- Create an address dBASE table that does not include x-, y-coordinates, and then geocode the table to make the software plot each address on the map. For more information, see [“Creating an address layer by using a dBASE table without x-, y-coordinates” on page 140](#).

Creating a point address layer by drawing address points on the map

If an orthophotographic map is used as one of the GIS layers, drawing address points on the map may be preferred.

To create an address layer by drawing points on the map:

1. Create a point shapefile for the address layer. See [“Creating a shapefile in ArcCatalog” on page 88](#).
2. Save the shapefile to the directory containing other ArcGIS files.
3. Add the shapefile to the map as an address layer. See [“Adding a layer in ArcMap” on page 95](#).
4. Open the address Attributes table. See [“Opening a layer Attributes table in ArcMap” on page 361](#).
5. Add the required fields to the address Attributes table. See [“Fields for the address table” on page 143](#).
6. Select the address Attributes table.
7. From the Editor toolbar, select **Editor > Start Editing**.
8. From the Draw toolbar, select **Create New Features**.
9. In the **Target** field, enter the name of the address Attributes table.
10. Draw each address point on the map. An orthophotographic map can be used as a guide to determine where to place the point for each address.
11. After each address point is drawn, enter information for that address in the address Attributes table. See [“Entering information in the address Attributes or dBASE table” on page 144](#).

12. From the Editor toolbar, select **Editor > Save Edits**.

Creating an address layer by using a dBASE table with x- and y-coordinates

To create an address layer using an address dBASE table, either an existing dBASE table can be used or a dBASE table can be created. To use this type of address layer, the x-, y-coordinates for each address must be known.

Using an existing address table

Existing tabular data can be imported into ArcMap as a dBASE table. For example, if most address records are stored in the Geobase Address Maintenance table (`gbaddr`) in Spillman, then they can be saved as a text file and imported into the GIS as a dBASE table. For general instructions, see [“Pin Mapping and Adding Spillman Text Files to ArcGIS” on page 195](#).

If access is available to another source of address information in tabular form, the table can be imported as a dBASE table in ArcMap. For more information, see your ArcGIS documentation.

For `gbload` to transfer address information to Spillman, the dBASE table must contain the **Street**, **Numb**, **Citycd**, **X**, and **Y** fields. If using grid-based addressing, then the **Prefix** field must be added. The **Location** and **Suffix** fields are optional. For more information, see [“Fields for the address table” on page 143](#). After adding any missing fields, enter the information for each record.

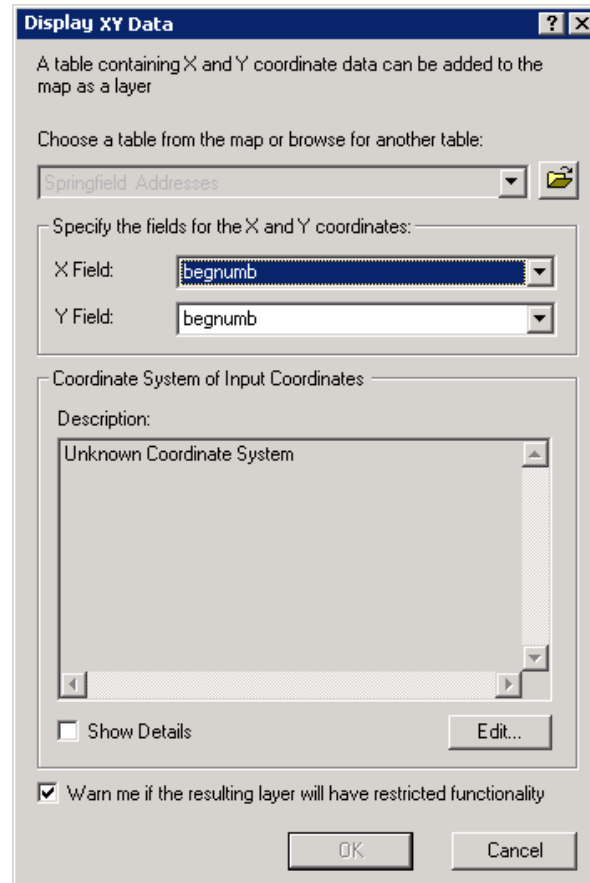
Creating an address dBASE table

To create an address dBASE table:

1. In ArcCatalog, create a dBASE table to store your addresses. See [“Creating a dBASE table in ArcCatalog” on page 358](#).
2. Name the table appropriately, such as `Addresses.dbf`, and save the file to the directory containing other ArcGIS files.
3. Add the address dBASE file to the map. See [“Adding a dBASE table to ArcMap” on page 360](#).
4. In ArcMap, open the address dBASE table, and then add the required fields. Use the fields listed in [“Fields for the address table” on page 143](#), making sure to add the **X** and **Y** fields.
5. From the Editor toolbar, select **Editor > Start Editing**.
6. Enter a record for each address. See [“Entering information in the address Attributes or dBASE table” on page 144](#).
7. When finished, from the Editor toolbar, select **Editor > Save Edits**.
8. To display addresses on the map, from the table of contents, click the **Source** tab.

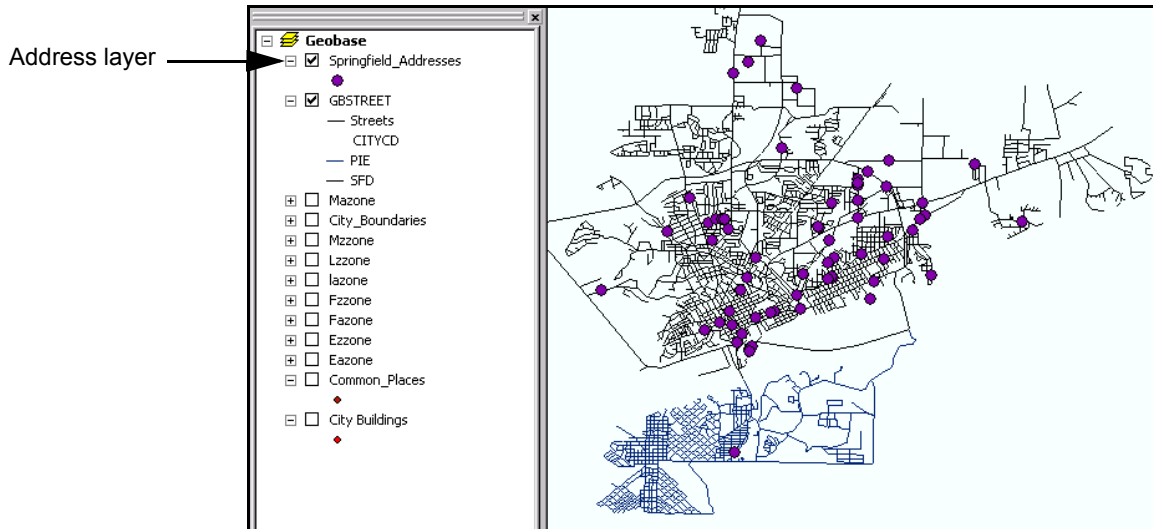
9. Right-click the name of the address dBASE file, such as `Springfield_Addresses.dbf`, and then select **Display XY Data**.

The Display XY Data dialog box opens.



10. Click **OK**.

An address layer is created in the table of contents, and each address is plotted on the map, as shown in the following example.



Creating an address layer by using a dBASE table without x-, y-coordinates

If the x-, y-coordinates are unknown for addresses in your jurisdiction, then a dBASE table without the x-, y-coordinates can be created. The dBASE table can then be geocoded to plot the addresses on the map. When the dBASE table is geocoded, ArcGIS creates x-, y-coordinates for each address.

To create a dBASE table without x-, y-coordinates:

1. In ArcCatalog, create a dBASE table to store your addresses. See [“Creating a dBASE table in ArcCatalog” on page 358](#).
2. Name the table appropriately, such as `Addresses.dbf`, and then save the file to the directory containing other ArcGIS files.
3. Add the address dBASE file to the map. See [“Adding a dBASE table to ArcMap” on page 360](#).
4. In ArcMap, open the address dBASE table, and then add the required fields. Use the fields listed in [“Fields for the address table” on page 143](#), making sure to add the **Street**, **Numb**, **Citycd**, and **Fulladdr** fields. If using grid-based addressing, then the **Prefix** field must be added. All other fields are optional.

TIP

Wait until after all address records have been added to have ArcGIS calculate the values in the **Fulladdr** field.

5. From the Editor toolbar, select **Editor > Start Editing**.
6. Enter a record for each address. See [“Entering information in the address Attributes or dBASE table” on page 144](#).
7. From the Editor toolbar, select **Editor > Save Edits**.
8. If the full address has not been entered in the **Fulladdr** field, refer to [“Creating a full address field on the common place or address table” on page 148](#).
9. Geocode the address dBASE table to plot the addresses on the map. See [“Geocoding Tables” on page 147](#).

Creating an address layer by using a polygon address layer

To create an address layer using a polygon address layer, either an existing polygon layer, such as a property boundary layer, can be used, or a polygon layer can be created.

Using an existing polygon address layer

An existing polygon address layer can be used as your address layer. For example, if a polygon layer containing all property boundaries already exists, then the polygon layer Attributes table can be opened for the existing layer and the required address fields added. For `gbload` to transfer address information to Spillman, the table must contain the **Street**, **Numb**, and **Citycd** fields. If using grid-based addressing, then the **Prefix** field must be added. The **Location** and **Suffix** fields are optional. For more information, see [“Fields for the address table” on page 143](#).

If the required address fields are added to the polygon layer Attributes table, then the **Create Text Files** tool uses the centroid of the land parcel for the x-, y-coordinates. To *not* use the centroid of the land parcel as the x-, y-coordinates, add the **X** and **Y** fields to the polygon layer Attributes table. If the **X** and **Y** fields already exist, then the **Create Text Files** tool uses the values from these fields instead of the centroid.

Creating a polygon address layer

To create a polygon address layer:

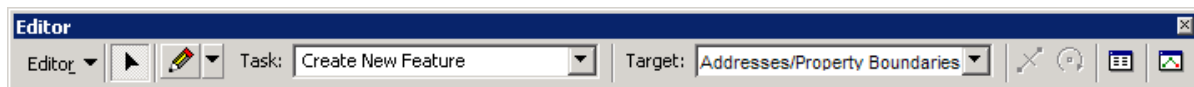
1. In ArcCatalog, create a polygon shapefile. See [“Creating a shapefile in ArcCatalog” on page 88](#).
2. Save the shapefile to the directory containing other ArcGIS files.
3. Add the shapefile to the map as an address layer. See [“Adding a layer in ArcMap” on page 95](#).
4. Open the address Attributes table, and add the required fields. Use the fields listed in [“Fields for the address table” on page 143](#). You

must add the **Street**, **Numb**, and **Citycd** fields. If your agency uses grid-based addressing, then a **Prefix** field must also be added. All other fields are optional.

NOTE

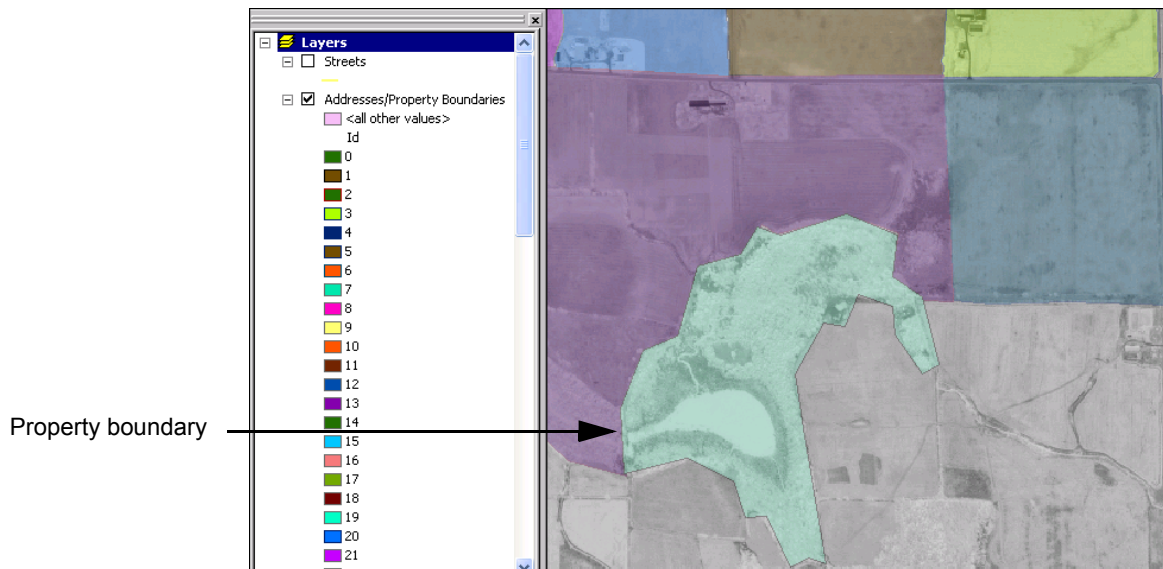
If the required address fields are added to the polygon layer Attributes table, then the **Create Text Files** tool uses the centroid of the land parcel for the x-, y-coordinates. To *not* use the centroid of the parcel as the x-, y-coordinates, add the **X** and **Y** fields to the layer Attributes table. If the **X** and **Y** fields already exist, the **Create Text Files** tool uses these field values instead of the centroid.

5. In ArcMap, select the address layer from the geobase data frame's table of contents.
6. From the Editor toolbar, select **Editor > Start Editing**.
7. In the **Task** field, select **Create New Feature**.
8. In the **Target** field, select the name of the address layer. For example, **Addresses/Property Boundaries**.



9. Draw a polygon over the area land parcel. If using a orthophotographic map, display the orthophotographic map layer under the parcel layer for reference.

The following example shows property boundaries drawn over an orthophotographic map.

**TIP**

By displaying the address or parcel layer with transparency, the orthophotographic map layer can be seen underneath, making the parcel boundaries distinct.

10. Repeat steps 7–9 for every land parcel in your jurisdiction.
11. After each address parcel is drawn, enter information for that address in the address Attributes table. See [“Entering information in the address Attributes or dBASE table”](#) on page 144.
12. When finished, from the Editor toolbar, select **Editor > Save Edits**.

Fields for the address table

For your address layer to function properly after information is transferred to Spillman, the **Street**, **Numb**, and **Citycd** fields must be added. If your agency uses grid-based addressing, then the **Prefix** field must also be added. Depending on how the address layer is set up, the **X** and **Y** fields may need to be added. The **Location** and **Suffix** fields are optional.

Use the following table to add the appropriate fields to the address table.

Field name	Type	Length	Field is for
Prefix*	Text	5	The street prefix, if grid-based addressing is used.
Street	Text	30	The actual street name. For example, North Broadway.
Numb	Long Integer	7	The house number of the address.
Citycd	Text	3	The city code. Enter the city code for the city where the street segment is located.
X	Double		The x-coordinate of the address. If an address dBASE table is created and not an address layer (points on the map), then this field is required. If an address layer is created by using points or polygons, then an x-coordinate field is unnecessary. However, if a polygon layer is created, and the centroid will not be used for the x-, y-coordinates, then this field can be added to change the x-coordinate value.
Y	Double		The y-coordinate of the address. If an address dBASE table is created and not an address layer (points on the map), then this field is required. If an address layer is created by using points or polygons, then a y-coordinate field is unnecessary. However, if a polygon layer is created, and the centroid will not be used for the x-, y-coordinates, then this field can be added to change the y-coordinate value.
Location (optional)	Text	20	Additional address information.
Suffix (optional)	Text	8	Apartment suffixes and the fractional portion of house numbers.
Fulladdr**	Text	40	The house number and the street address. This field is required if the address .dbf table will be geocoded. For general information, see “Creating a full address field on the common place or address table” on page 148.
* If using grid-based addressing, then the Prefix field is required.			
** If the common place tables will be geocoded, then the Fulladdr field is required.			

Entering information in the address Attributes or dBASE table

Depending on how the address layer is set up, your address table may be a dBASE table or an address Attributes table for a point or polygon layer.

To enter information in the address table:

1. In ArcMap, open your map.

2. From the table of contents, click the **Source** tab.
3. Right-click the name of the address table, such as *Addresses*, and then select **Open**.

The address table opens.

4. From the Editor toolbar, select **Editor > Start Editing**.

A record line is added to enter the first alias record, and the editor symbol appears next to the **Options** button, indicating that the table is in editing mode.

5. If using grid-based addressing, in the **Prefix** field, enter the address prefix.
6. In the **Street** field, enter the name of the street the address is associated with.
7. In the **Numb** field, enter the house number for the address.
8. In the **Citycd** field, enter the city code for the city where the address is located.
9. In the **X** field, enter the x-coordinate for the address.
10. In the **Y** field, enter the y-coordinate for the address.
11. In the **Location** field, enter up to 20 characters of information to help users find the address. This field is optional.

For example, if the address 212 Britt Ct is added, and Britt Court is in the Creekside subdivision, then enter **Creekside Subdiv** in the **Location** field to notify users.

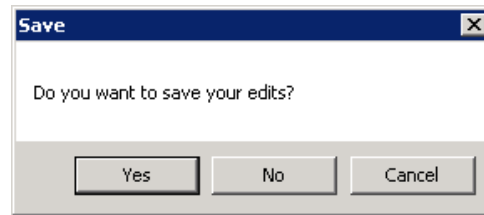
12. In the **Suffix** field, enter the apartment suffix or fractional portion of the house number, if applicable. This field is optional.

NOTE

When adding a record, the software generates a blank record with the object identification number in the **OID** field. Do not be concerned if OID numbers are not generated sequentially.

13. Repeat steps 5–12 until all the address records are added.
14. When finished, from the Editor toolbar, select **Editor > Stop Editing**.

The Save dialog box opens, asking whether to save the edits.



15. Click **Yes**.

Geocoding Tables

When the common place tables, address tables, or text files from Spillman are geocoded, the software plots a point on your map, which represents the common places, addresses, or Spillman data spatially on the map.

Geocoding is the process that ArcGIS uses to assign latitude and longitude coordinates to an address for it to be displayed on a map as a point. Before ArcGIS can perform geocoding, a geocoding service must be set up.

A geocoding service defines the paths to reference data, and is used to configure how the software will read address information and create output. For example, the geocoding style (format), which determines the information to reference from the geobase Attributes table, can be specified.

To geocode your common place tables, perform the following tasks:

- In the common place table, create a field containing the full address of each common place. See [“Creating a full address field on the common place or address table” on page 148](#).
- Create a geocoding service. See [“Creating a geocoding service based on address style” on page 149](#).
- Run the **Standardized Address** tool on the geobase Attributes table. This tool creates standardized address fields and separates each address component so ArcGIS can geocode properly. If geocoding is performed, but this tool is not run, then the software does not accurately separate addresses and cannot plot your common places. See [“Running the Standardize Addresses tool on the geobase Attributes table” on page 152](#).
- Add the geocoding service to ArcMap. See [“Adding a geocoding service to ArcMap” on page 154](#).
- Geocode each common place table. The software creates a common place layer and places a point on the map for each common place in the table. [“Geocoding a common place table in ArcMap” on page 154](#).
- Rename the common place layer to reflect the specific type of common places it contains. See [“Renaming the new common place layer” on page 157](#).

NOTE

Other .dbf files, such as crime analysis data files from Spillman, can be geocoded using the same process.

Creating a full address field on the common place or address table

For ArcGIS to geocode your common place aliases or addresses, the appropriate table must contain a field for the full address of each alias.

To create a full address field:

1. Open the common place or address table to geocode.
2. Create a full address field. See [“Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362](#).

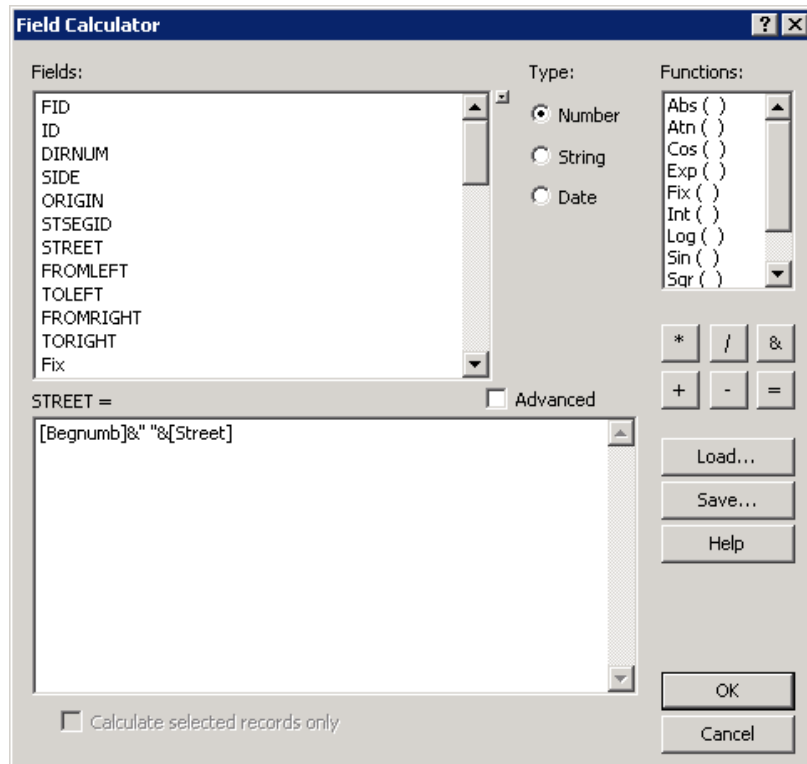
In the Add Field dialog box that opens, use the following values

Field name	Type	Properties
Fulladdr	Text	40

3. With the common place alias or address table still selected, from the Editor toolbar, select **Editor > Start Editing**.
4. Right-click the **Fulladdr** field, and then select **Field Calculator**.

The Field Calculator dialog box opens.

5. In the **Calculate** field, enter **[Begnumb] & " " & [Street]**.

**NOTE**

If the address table contains different names for the house number (**Begnumb**) and street name (**Street**) fields, then enter the value from the address table for the house number and street fields.

6. Click **OK**.

Complete addresses are entered in the new **FullAddr** field.

Creating a geocoding service based on address style

Before the common place tables can be geocoded, a geocode service must be created. If addresses are already standardized, and the geobase Attributes table contains a separate field for each address component, such as the prefix direction or suffix direction, then only one geocoding service needs to be created.

However, if addresses are not standardized on the geobase Attributes table, then do the following:

- Create a geocoding service
- Standardize the addresses
- Return to this section and create another geocoding service using the separated address fields.

For information on standardizing addresses, see [“Running the Standardize Addresses tool on the geobase Attributes table” on page 152.](#)

To create a geocode service:

1. Open ArcCatalog.
2. From the Catalog Tree menu, select **Geocoding Services**.
3. From the displayed list, double-click **Create New Geocoding Service**.

The Create New Geocoding Service dialog box opens.

4. Select the address style your agency uses for geobase addresses.
 - If your streets layer is a shapefile, then select an option ending with **File**. For example, **US Streets (File)**.
 - If your streets layer is a geodatabase file, then select an option ending with **GDB**. For example, **US Streets (GDB)**.
5. Click **OK**.

The New Geocoding Service dialog box opens. The actual name of the dialog box depends on the address style selected.

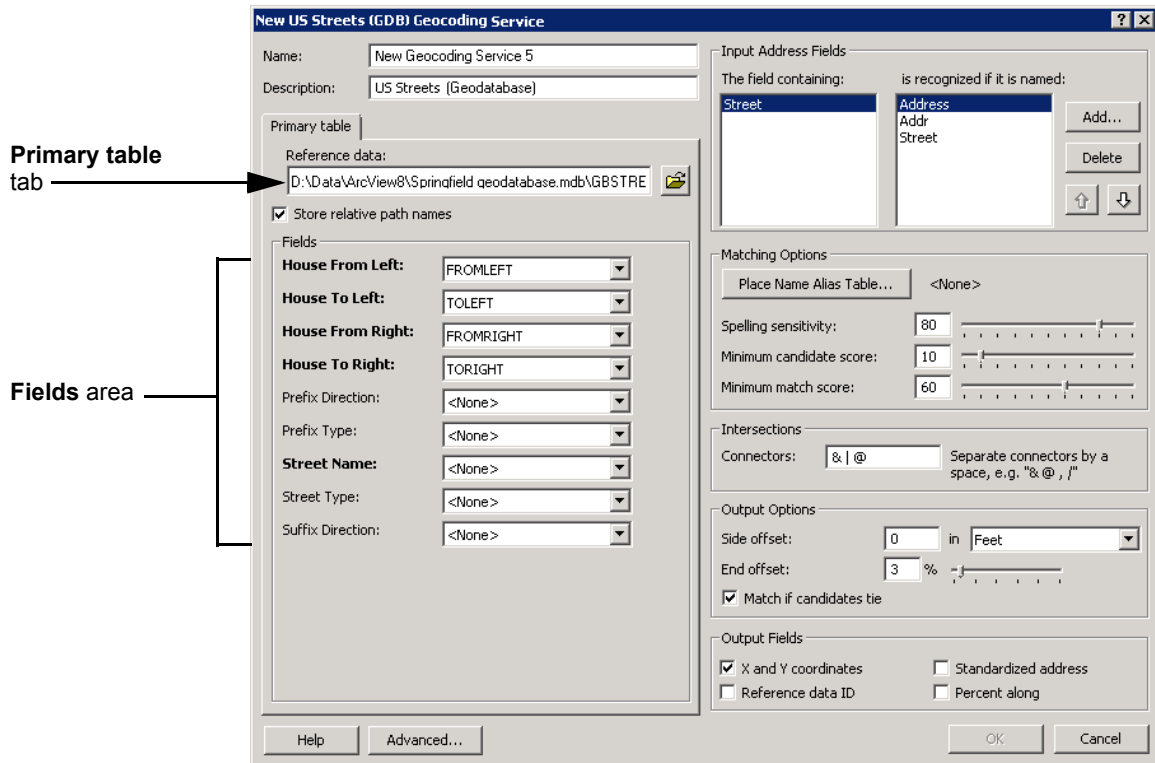
6. In the **Primary table** area, next to the **Reference data** field, click the browse button.

The Choose Reference Data dialog box opens.

7. Locate the map folder designated for your map files, and then select the street shapefile or geodatabase file.
8. Click **Add**.

The software closes the Choose Reference Data dialog box and returns to the New Geocoding Service dialog box, where it populates

the fields in the **Fields** area with the corresponding information from the street shapefile.



9. In the **Matching Options** area, click the **Place Name Alias Table** button.

The Alias Table dialog box opens.

10. In the **Alias table** field, click the browse button.

The Add dialog box opens.

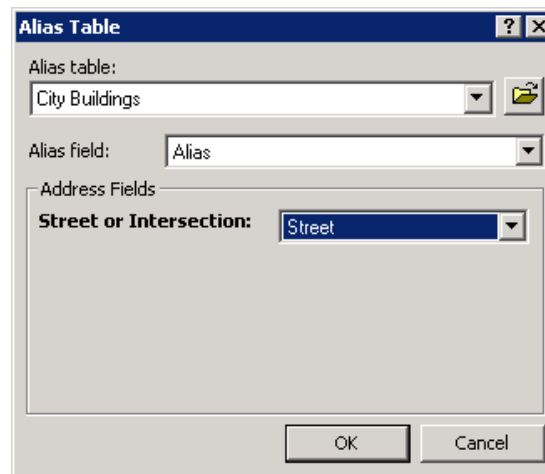
11. Locate the map directory designated on the network, and then select the common place .dbf table being geocoded.

12. Click **Add**.

The software returns to the Alias Table dialog box and adds the name of the table in the **Alias table** field.

13. In the **Alias** field, select the alias field.

14. In the **Street or Intersection** field, select the name of the street field.



15. Click **OK**.

The software closes the Alias Table dialog box and returns to the New Geocoding Service dialog box.

16. Click **OK**.

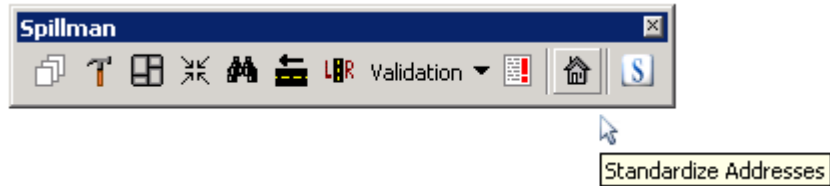
The geocoding service is created in the Geocoding Services directory.

Running the Standardize Addresses tool on the geobase Attributes table

If the geobase Attributes table is already set up using standardized addresses, then addresses do not need to be standardized. If addresses do need to be standardized, use the **Standardize Address** tool on the Spillman toolbar.

To standardize addresses in the geobase Attributes table:

1. From the Spillman toolbar, click the **Standardize Addresses** icon.

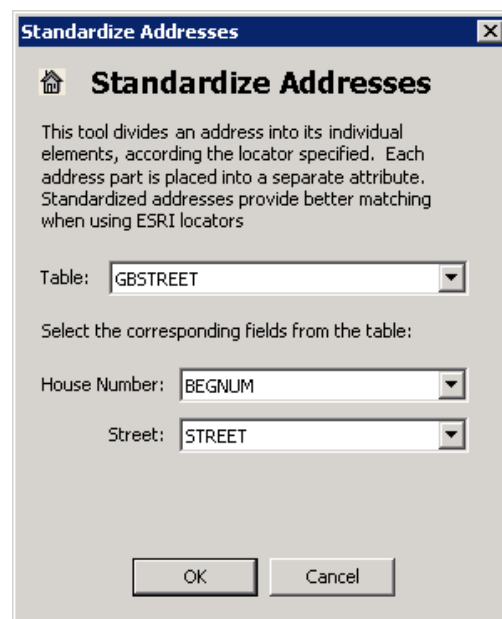


Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

The Standardize Addresses dialog opens, and values populate in the **Table** and **Street** fields.



2. Review the values. If they are correct, continue to step 6. If they are incorrect, continue to step 3.
3. In the **Table** field, select your geobase Attributes table.

4. In the **House Number** field, select the corresponding field from your geobase Attributes table.
5. In the **Street** field, select the name of the street field from your geobase Attributes table.
6. Click **OK**.

The Choose a geocoding service dialog box opens.

7. In the dialog box, locate your geocoding services directory, and then select the appropriate geocoding service.
8. Click **Choose**.

A dialog box opens, stating that the software is standardizing the addresses.

When finished, the **Standardize Address** tool adds fields to the geobase Attributes table. Fields may vary depending on the geocoding service selected.

For example, if geocoding service specified uses the geocoding style US Alphanumeric Ranges with Zone, then the following fields might be added: **GridZone**, **HouseNum**, **PreDir**, **PreType**, **StreetName**, **SufType**, **SufDir**, and **Zone**.

9. Create a geocoding service using the new fields. See [“Creating a geocoding service based on address style” on page 149](#).

Geocoding a common place table in ArcMap

To geocode a common place table in ArcMap, complete the following:

- [“Adding a geocoding service to ArcMap” on page 154](#)
- [“Geocoding a common place table” on page 155](#)
- [“Renaming the new common place layer” on page 157](#)

Adding a geocoding service to ArcMap

Before a common place table can be geocoded in ArcMap, a geocoding service must be added to ArcMap.

To add a geocoding service to ArcMap:

1. Open ArcMap.
2. From the table of contents, click the **Source** tab.
3. Right-click the common place `.dbf` table to geocode, and then select **Geocode Addresses**.

The Choose a geocoding service to use dialog box opens.

4. Click **Add**.

The Add Geocoding Service dialog box opens.

5. Click the browse button, and then select the geocoding service to add.

6. Click **Add**.

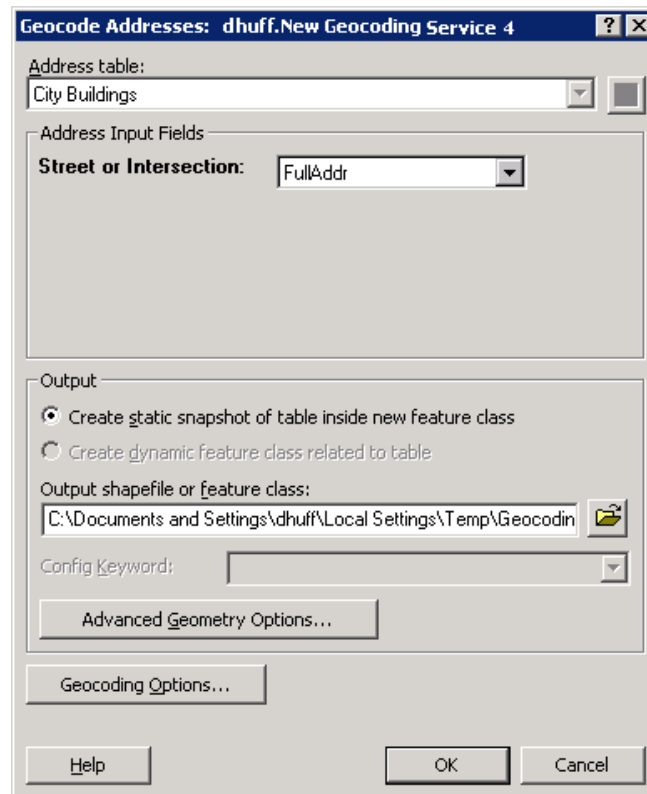
The geobase service is added to the Choose a geocoding service to use dialog box.

Geocoding a common place table

To geocode a common place table in ArcMap:

1. In ArcMap, if the Choose a geocoding service to use dialog box is not open already, open it. See [“Adding a geocoding service to ArcMap” on page 154](#).
2. With the geocoding service selected, click **OK**.

The Geocode Addresses dialog box opens.



3. In the **Street or Intersection** field, select the name of the full address field. For example, **Fulladdr**.
4. Click **OK**.

The Review/Rematch Addresses dialog box opens, displaying the number and percentage of common place aliases matched, partially matched, and unmatched during geocoding.

Review/Rematch Addresses

Statistics

Matched with score 80 - 100:	13 (93%)
Matched with score <80:	0 (0%)
Unmatched:	1 (7%)
Matched with candidates tied:	1 (7%)
Unmatched with candidates tied:	0 (0%)

Rematch Criteria

☒ Unmatched addresses

☐ Addresses with score <

☐ Addresses with candidates tied

☐ All addresses

☐ in this query

Geocoding Options...

Match Interactively Match Automatically Done

A high number in the **Matched with score 80 - 100** field is desired because the software can plot only matched common place aliases. For your common place *layer* to be completely accurate, the software must match 100% of the aliases. However, a slightly lower number might suffice for your agency's needs.

5. If a high number appears in the **Matched with score < 80** or the **Unmatched** fields, verify that each step was completed correctly:
 - “Creating a full address field on the common place or address table” on page 148
 - “Creating a geocoding service based on address style” on page 149
 - “Running the Standardize Addresses tool on the geobase Attributes table” on page 152

Repeat each task, if necessary.

6. Click **Done**.

The software generates a new common place layer named `Geocoding Result: Geocoding_Result` and plots each found common place on the map.

7. Select the main data frame to view the geocoded addresses. To rename the common place layer, see [“Renaming the new common place layer” on page 157](#).

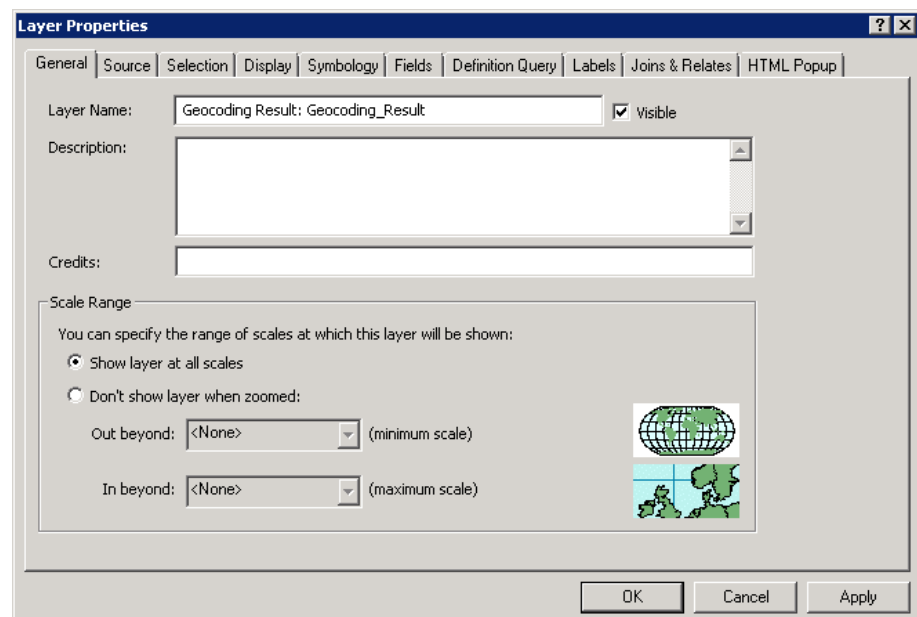
8. From the Editor toolbar, select **Editor > Save Edits** to save the plotted common places.

Renaming the new common place layer

To rename the new common place layer:

1. In ArcMap, right-click the new geocoded layer, and then select **Properties**.

The Layer Properties dialog box opens.



2. In the **Layer Name** field, delete the existing name, and then enter the new layer name. For example, **City Buildings**.

3. Click **OK**.

The name of the common place layer is changed on the data frame's table of contents.

Setting Up the Zone Layers

By defining zones on your map, dispatchers are able to clearly see the units, agencies, and fire stations that are responsible for each area.

The Spillman geobase can track up to 16 types of zones, as shown in the following table.

Zone category	Zone layer	Zone
Dispatch zones	lzzone fzzone ezzone mzzone	Law Dispatch Zone Fire Dispatch Zone EMS Dispatch Zone Miscellaneous Dispatch Zone
Street zones	lszone fszone eszone mszone	Law Street Zone Fire Street Zone EMS Street Zone Miscellaneous Street Zone
Reporting areas	lazone fazone eazone mazone	Law Area Fire Area EMS Area Miscellaneous Area
Response plan zones	lrzone frzone erzone mrzone	Law Response Plan Zone Fire Response Plan Zone EMS Response Plan Zone Miscellaneous Response Plan Zone

Dispatch zones for incidents

Every area on the map that contains streets should be covered by a dispatch zone. Although it is unnecessary to create a miscellaneous zone or response plan zone for every street, a miscellaneous dispatch zone must be created over any area where miscellaneous-type calls might be dispatched.

Miscellaneous-type calls, such controlled burns, fire drills, funeral escorts, and EMS transfers, do not require creation of a Law Incident record, Fire Incident record, or EMS Incident record. See [“Creating dispatch zones” on page 172](#).

Street zones for incidents

Use street zones only in conjunction with dispatch zones. Street zones are optional, are usually used when a street, such as a highway, is the responsibility of a dispatch zone other than the one that is responsible for the zones on either side of the street. See [“Creating street zone layers” on page 173](#).

**Reporting areas
for incidents**

Reporting areas are usually smaller and more specific than dispatch zones. For example, a reporting area might consist of a shopping mall or a high school and the surrounding area. Reporting areas are used with the law, fire, EMS, and miscellaneous incident tables to maintain statistical information. See [“Creating reporting area layers” on page 173](#).

**Response plan
zones for
incidents**

Response plan zones are optional. Draw these zones, showing the areas covered by response plans, *only* if your agency creates response plans with the Computer-Aided Dispatch module. Response plans define the agencies and units that will respond to a law, fire, EMS, or miscellaneous call at a specified alarm level. See [“Creating response plan layers” on page 173](#).

NOTE

If response plan layers will not be created, then specify the dispatch zones as the response plan zones in the Spillman software.

For an example of a map with zones, see [“Geobase Examples” on page 341](#).

Overview tasks

To set up zones, complete the following tasks:

- Add a zone layer to your map. See [“Adding a zone layer to ArcMap” on page 160](#).
- Draw the zones over your map. See [“Drawing zones on the map” on page 160](#)
- Run the **Create Zones** tool. When run, the tool does the following:
 - Converts the ArcGIS data into a Spillman-compatible format, and then transfer the data from ArcGIS to Spillman. See [“Constructing the Map in ArcGIS” on page 79](#).
 - Creates the tbzones table (the master zone table) and copies information from all individual zones, reporting areas, and response plan layers into the tbzones table.

NOTE

The zone fields, the tbzones table, and the other ArcGIS tables must follow the structures supplied by Spillman Technologies during geobase implementation. Otherwise, zone data cannot transfer properly to the Spillman software.

- Extracts information from all zone fields and saves it to the Spillman Zone Codes table (tbzones) and Street Zone Detail window

(gbzone). For each ZoneID created in ArcGIS, one tbzones record is created, as shown in the following example.

The screenshot shows the 'tbzones Zone Codes' window. It has a menu bar (File, Edit, Search, Tools, Help) and a toolbar with icons for Exit, Search, Mod, Add, Clr, Del, List, Toll, Prit, Back, Fwd, Jadd, and Jres. Below the toolbar is a 'Zone Codes' section with 'Inv', 'Orig', and 'Use' buttons. The main area contains the following fields:

- Zone Code: FWEST
- Description: Pierre Fire West Zone
- Agency: PFD Pierre Fire Department
- X Coordinate of Center of Zone: 2550
- Y Coordinate of Center of Zone: -13984

At the bottom, it shows 'User: train2', a search bar 'Search for specific records', and status indicators 'OVR' and 'Rec 1'.

The gbzone detail window can be accessed from all gbstreet records, and is used to display zone information on the screen, as shown in the following example.

Zones	Layer	Odd	Even	Layer	Odd	Even	Layer	Odd	Even
	LZ	CENT	CENT	LA	CENT	CENT	FZ	FCENT	FCENT
	FA	FCENT	FCENT	EZ	ECENT	ECENT	EA	ECENT	ECENT
	MZ	UDOT	UDOT						

Adding a zone layer to ArcMap

To draw zones on your map, a zone layer must be added. This procedure is the same for each zone layer created, regardless of zone type.

1. Create a shapefile for the zone. See [“Creating a shapefile in ArcCatalog” on page 88](#). Save the file to the directory that contains your other ArcGIS files.
2. Add the shapefile to your map as a zone layer. See [“Adding a layer in ArcMap” on page 95](#).

Drawing zones on the map

When drawing zones, use the following guidelines:

- Know the zone boundaries, making sure zones have complete coverage.
- Do not allow zones to overlap.

- Use the ArcGIS snap feature. For more information, see your ArcGIS documentation or Help menu.

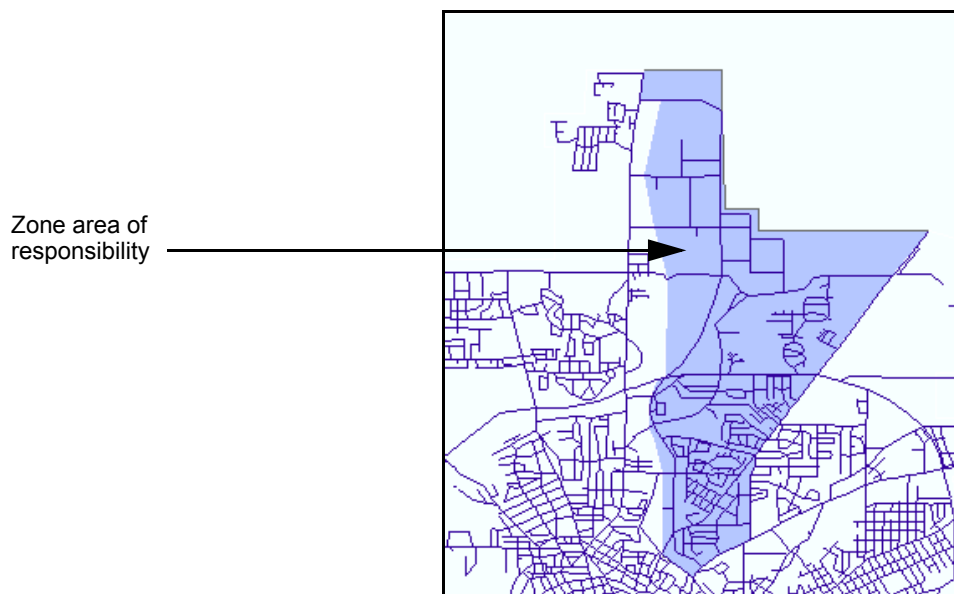
To draw zones on a layer:

1. From the geobase data frame's table of contents, select the zone layer to draw zones on.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. In the **Task** field, select **Create New Feature**.
4. In the **Target** field, select the name of the zone layer being edited. For example, **Fzzone**.
5. Verify that the ArcGIS snap feature is turned on.

NOTE

The snap feature locks the boundaries of polygonal regions so they touch but not overlap. Do not overlap zones, as this may cause problems for the Spillman geobase. For more information on the snap feature, see your ArcGIS documentation or Help menu.

6. With the correct zone layer selected, from the Editor toolbar, click the **Create New Feature** tool.
7. Draw a polygon over the area that the zone is responsible for, as shown in the following example.



8. Repeat steps 6–7 for every zone on the layer, such as each fire dispatch zone.

Working with zone tables

When building zones, information must be entered in the zone Attributes table and geobase Attributes table for each zone:

- “Adding fields on the zone Attributes table” on page 162
- “Adding zone fields on the geobase Attributes table” on page 162
- “Converting existing odd and even zone fields to left and right zone fields” on page 164
- “Entering zone field information on the geobase Attributes table” on page 167

Adding fields on the zone Attributes table

The zone Attributes table must contain the fields listed in the following table. Values in the **ZoneID** field are later used to populate zone fields on the geobase Attributes table.

Field name	Type	Properties	Field is for
ZoneID	Text	5	The ZoneID for each zone. For example, if the zone layer fzzone contains five zones, then the ZoneID field might contain the following records: FN, FS, FE, FW, and FC.
Zonedesc (optional)	Text	30	The description of each ZoneID. For example, Fire North Zone, Fire South Zone, Fire East Zone, Fire West Zone, and Fire Central Zone.
Agency Code (optional)	Text	4	The Spillman agency code corresponding to the zone.

Adding zone fields on the geobase Attributes table

The **Add Spillman Zone Fields** tool adds zone fields to the geobase Attributes table, making it easier to create and maintain zone fields.

To run the **Add Spillman Zone Fields** tool:

1. From the Spillman toolbar, click the **Add Spillman Zone Fields** icon.

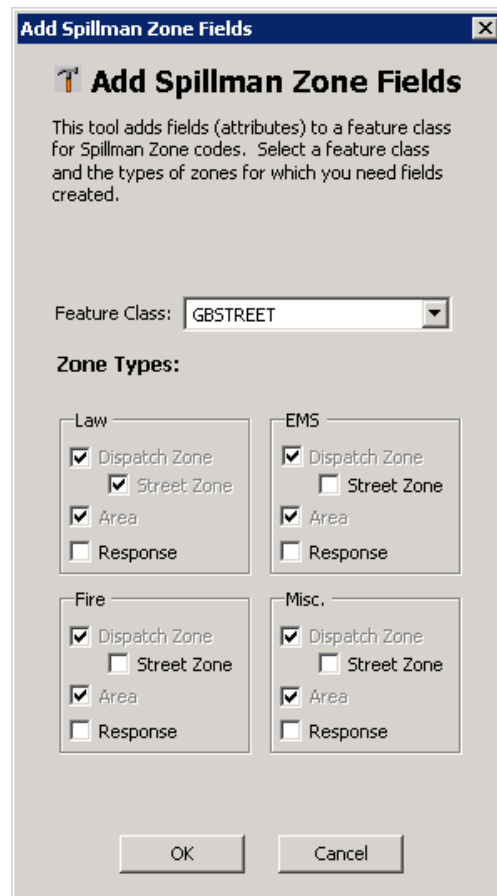


Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

The Add Spillman Zone Fields dialog box opens.



2. In the **Feature Class** field, select the name of your geobase Attributes table.
3. In the **Zone Types** area, select the check box next to the zone name for each zone the software is to create a zone field.
4. Click **OK**.

A zone field is added on the geobase Attributes table for all selected zones.

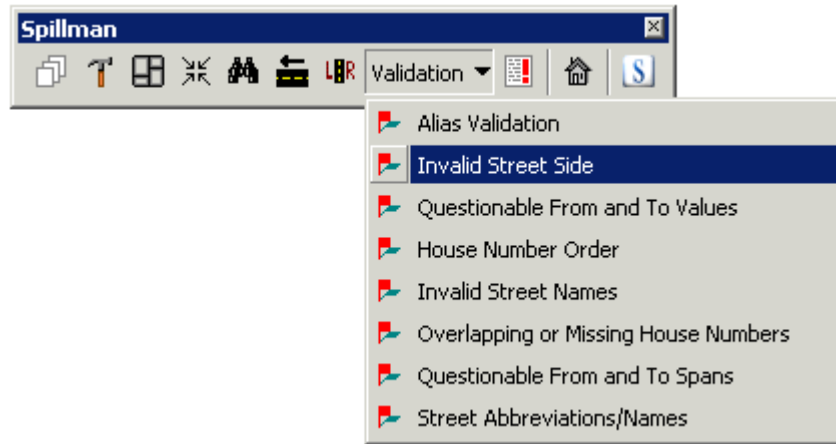
Converting existing odd and even zone fields to left and right zone fields

If the geobase Attributes table on your agency map contains odd and even zone fields, then they must be converted to left and right zone fields.

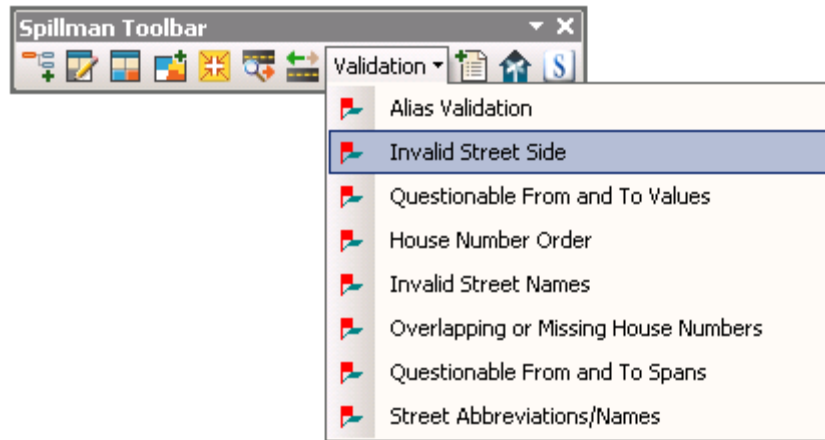
To convert odd/even zone fields to left/right zone fields:

1. From the Spillman toolbar, click the **Validation** icon.

2. From the displayed list, select any of the validation tools that affect the street layer. For example, **Invalid Street Names**.



Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

3. In the **Street Layer** field, select your street layer. For example, **GBSTREET**.
4. Click **OK**.

The Upgrade to Left/Right dialog box opens, displaying information in the appropriate fields. The actual name of the dialog box depends on the validation tool selected.

5. Review the fields, and change any information as necessary.
6. Do one of the following:
 - Select the **Upgrade City And Zone fields** option to copy the city code field into “Left” and “Right” City Code fields, and convert Odd/Even codes to Left/Right codes.
 - Select the **I already have Left/Right city codes, upgrade Zone fields only** option if left/right codes are already in the geobase Attributes table.
7. Click **Perform Upgrade**.
 - If the **Upgrade City And Zone fields** option is selected, then the **Citycd** field is deleted, and is replaced with a **Lcitycd** (left city code) field and a **Rcitycd** (right city code) field.

- If the **I already have Left/Right city codes, upgrade Zone field only** option is selected, then the odd and even zone code fields are deleted from the geobase Attributes table, and replaced with a left and right zone field.

NOTE

The new zone and city fields are automatically populated when the **Populate Fields from Polygon Layers** tool is run. For more information, see [“Entering zone field information on the geobase Attributes table” on page 167.](#)

Entering zone field information on the geobase Attributes table

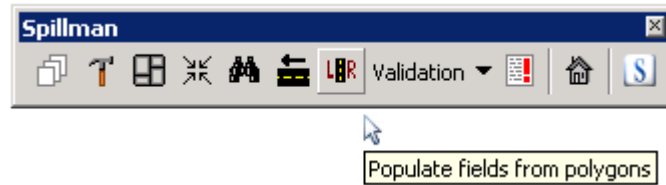
Once all zones are drawn, and information is entered in the zone Attributes table, then zone fields must be created on the geobase Attributes table and information entered in the zone fields.

To enter information in the zone fields on the geobase Attributes table, run the **Populate Fields from Polygon Layers** tool. This tool works only for polygon layers. When run, the software populates the left zone and right zone fields for the selected zone with the appropriate zone identifier, which is from the **ZoneID** field on the zone Attributes table.

Left and right ZIP Code fields and left and right city code fields can also be populated. If your agency uses odd and even zone fields, then the map must be upgraded before the **Populate Fields from Polygon Layers** tool is run. For more information, see [“Converting existing odd and even zone fields to left and right zone fields” on page 164.](#)

To enter zone field information on the geobase Attributes table:

1. From the Spillman toolbar, click the **Populate Fields from Polygon Layers** icon.



Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

The Populate Fields from Polygon Layers dialog box opens.

Populate Fields from Polygon Layers

This tool updates zone, city, and zip fields in an addressing layer based on values from other polygon layers. Pre-populating these fields using this tool will improve geobase performance.

Layer:

☒ Populate empty fields only
☐ Update all fields

	Polygon Layer	Source Field	Left Field	Right Field
<input type="checkbox"/> City	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Zip	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Law Zones | Fire Zones | EMS Zones | Misc Zones

Zone	Polygon Layer	Source Field	Left Field	Right Field
<input type="checkbox"/> Dispatch	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Area	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Response	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

☐ Select All Side Offset: 10 ft.

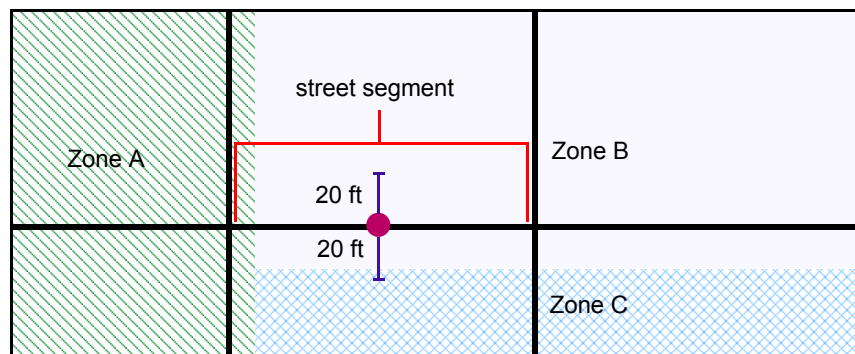
OK Cancel

2. In the **Layer** field, select your street layer. For example, **GBSTREET**.
3. Do one of the following:
 - To populate only empty fields, select the **Populate empty fields only** option.
 - To populate all fields, select the **Update all fields** option.
4. To populate the left and right city, zone, and ZIP fields, select the **Select All** option located at the bottom of the dialog box. Continue to complete the following steps.
5. To populate the left and right city code fields, select the **City** checkbox, and then do the following:
 - In the **Polygon Layer** field, select the city layer.
 - In the **Source Field** field, enter the name of the field containing the three-letter city code to transfer to Spillman. For example, a


field named **ABBR** that contains city name abbreviations, such as **PIE** for the city of Pierre.

- In the **Left Field** field, select **Lcitycd**.
 - In the **Right Field** field, select **Rcitycd**.
6. If left and right ZIP Codes are being used, then the left and right ZIP Code fields can be populated. Select the **Zip** field, and then do the following:
- In the **Polygon Layer** field, select the city layer if it contains a **ZIP Code** field, or select a zip code polygon layer.
 - In the **Source Field** field, enter the name of the field containing the ZIP code.
 - In the **Left Field** field, select **Lzip**.
 - In the **Right Field** field, select **Rzip**.
7. To populate left and right zone fields, select each zone tab that applies to your agency, and then enter the following information:
- In the **Polygon Layer** field, select the appropriate zone layer.
 - In the **Source Field** field, select the **ZoneID** field.
 - In the **Left Field** field, select the appropriate left zone field.
 - In the **Right Field** field, select the appropriate right zone field.
8. In the **Side Offset** field, enter the offset distance (in feet) the software will use to calculate the zone values.

For example, if the software is determining the left and right zones for the following street segment, and the offset value is set to **20 (ft)**, then the left zone would be Zone C even though the street segment is clearly in Zone B.



The Populate Fields from Polygon Layers dialog box will look similar to the following example.


Populate Fields from Polygon Layers

This tool updates zone, city, and zip fields in an addressing layer based on values from other polygon layers. Pre-populating these fields using this tool will improve geobase performance.

Layer:

GBSTREET

☐ Populate empty fields only
☒ Update all fields

	Polygon Layer	Source Field	Left Field	Right Field
<input checked="" type="checkbox"/> City	CityBoundies	ABBR	LCITYCD	RCITYCD
<input checked="" type="checkbox"/> Zip	CityBoundies	ZIP	LZIP	RZIP

Law Zones

Fire Zones

EMS Zones

Misc Zones

Zone	Polygon Layer	Source Field	Left Field	Right Field
<input checked="" type="checkbox"/> Dispatch	Lzzone	ZONEID	lz_left	lz_right
<input checked="" type="checkbox"/> Area	Lazone	ZONEID	la_left	la_right
<input type="checkbox"/> Response				

☒ Select All

Side Offset:

10


ft.

OK

Cancel

9. Click **OK**.

The software populates the fields and then saves the changes. When finished, the following message displays: Auto Populate completed successfully!



10. Click **OK**.

Marking records to prevent auto population

To prevent the **Populate Fields from Polygon Layers** tool from populating particular fields, records can be marked so the software will not populate them when the tool is run.

To mark records so that the **Populate Fields from Polygon Layers** tool will not populate them:

1. Open the geobase Attributes table.
2. Create a **popExclude** field. For more information, see [“Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362](#).
3. In the Add Field dialog box, use the following values. The **popExclude** field is case sensitive and must appear as shown in the following table.

Field name	Type	Properties
popExclude	Text	Any value

4. From the Editor toolbar, select **Editor > Start Editing**.
5. In the **popExclude** field on the geobase Attributes table, enter a value for all records whose field should not be auto-populated. Any description or character can be entered, as the software does not select records that contain *any* value in this field.
6. From the Editor toolbar, select **Editor > Save Edits**.

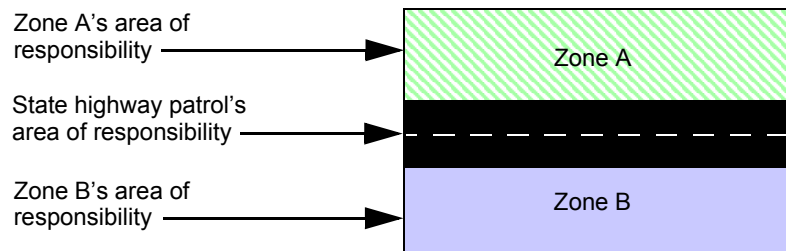
Creating dispatch zones

To create a dispatch zones layer:

1. Draw all dispatch zones of *one type* on that layer, such as all law dispatch zones. See [“Setting Up the Zone Layers” on page 158](#) and [“Drawing zones on the map” on page 160](#).
2. In the dispatch zones fields on the geobase Attributes table, enter information to define each zone on that layer. See [“Entering zone field information on the geobase Attributes table” on page 167](#).

Creating street zone layers

Traditionally, if a zone boundary is on a street, then the zones are divided on the street. However, sometimes a street can be a zone by itself. For example, if the state highway patrol is responsible for a highway bordered by two zones, then the street is designated as a zone, as shown in the following example.



To create a street zone layer, enter information in the street zone fields on the geobase Attributes table to define each street zone. For more information, see [“Entering zone field information on the geobase Attributes table”](#) on page 167.

Creating reporting area layers

To create a reporting area layer:

1. Draw all reporting areas of *one type* on that layer. For example, all law reporting areas. If reporting areas do not have the same boundaries as dispatch zones, draw the reporting areas. Reporting areas, like zones, cannot overlap. See [“Setting Up the Zone Layers”](#) on page 158 and [“Drawing zones on the map”](#) on page 160.
2. Define the structure of the table for that layer. See [“Adding fields on the zone Attributes table”](#) on page 162 and [“Adding zone fields on the geobase Attributes table”](#) on page 162.
3. In the reporting area fields on the geobase Attributes table, enter information to define each reporting area on that layer. See [“Entering zone field information on the geobase Attributes table”](#) on page 167.

Creating response plan layers

To create a response plan layer:

1. Draw all response plans of *one type* on that layer. For example, all law response plans. See [“Setting Up the Zone Layers” on page 158](#) and [“Drawing zones on the map” on page 160](#).

Not all areas of the map must be covered by a response plan.

However, if a particular area uses a response plan, then a response plan zone must be drawn. Response plan zones are drawn the same way as dispatch zones, and cannot overlap.

2. Define the structure of the table for that layer. See [“Adding fields on the zone Attributes table” on page 162](#) and [“Adding zone fields on the geobase Attributes table” on page 162](#).
3. In the response plan fields on the geobase Attributes table, enter information to define each response plan on that layer. See [“Entering zone field information on the geobase Attributes table” on page 167](#).
4. In the Spillman Response Plans table (rpmain) of the Live database, in the **Zone** field, enter the zone code.

For example, the following rpmain record is a response plan for a structure fire in zone FW.

The screenshot displays the 'Response Plans Table' (rpmain) window. The form contains the following fields and values:

- Plan Number: 2
- Call Type: F
- Nature: Structure Fire
- Determinant: (empty)
- Street: (empty)
- Zone: FW
- Map/Ref: D17
- Water Source: 2
- Valid Day: ☐
- Start: (empty)
- End: (empty)
- Alarm Levels: 3
- City: (empty)

The bottom status bar indicates 'User: train2 | Modify the current record' and 'OVR'.

For more information on setting up response plans, see the *Spillman Response Plans User's Guide*.

NOTE

Before entering codes in the Live database, enter some of them in the `rpmain` table in the `rsetup` database and verify that the response plans work as intended.

Creating the `tbzones` table in ArcGIS

After separate layers are created for all zones, reporting areas, and response plans, the Master Zones table (`tbzones`) must be created. However, it can be created after your map is finished. Creating the `tbzones` table is one step towards transferring data into Spillman. For more information on creating the master zones table, see [“Using the Create Zones tool” on page 211](#).

Do not confuse the `tbzones` table in ArcGIS with the `tbzones` table in Spillman.

Setting Up the City Layer

The geobase Attributes table contains a **City** field (Citycd). Therefore, setting up a city layer is unnecessary to make your ArcGIS map compatible with Spillman. However, if creating a city layer, use the following information to draw city boundaries:

- “Separating cities by color on the geobase layer” on page 176
- “Adding a city layer” on page 177
- “Drawing city boundaries” on page 178
- “Applying color to city boundaries” on page 179

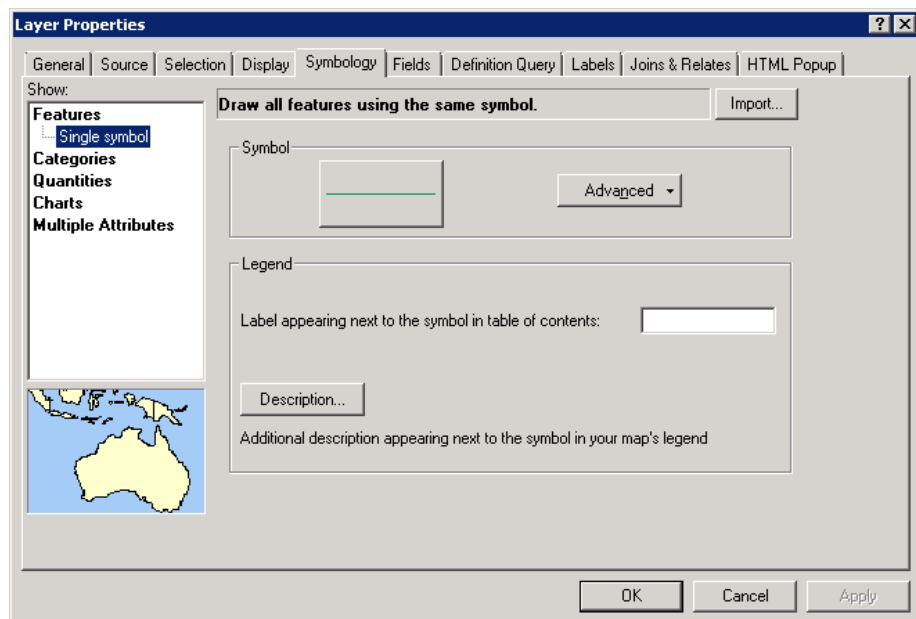
Separating cities by color on the geobase layer

To distinguish city boundaries, apply a unique color to each city’s streets.

To separate cities by color:

1. In ArcMap’s table of contents, right-click the geobase layer, and then select **Properties**.

The **Layer Properties** dialog box opens.



2. Click the **Symbology** tab.
3. In the **Show** area, click **Categories**.

4. From the displayed list, click **Unique Values**.

Symbol information for your street layer populates in the **Symbol**, **Value**, **Label**, and **Count** fields.

5. In the **Value Field** area, select the city code field.
6. In the **Color Schemes** field, select a color scheme.
7. Click **Add All Values**.

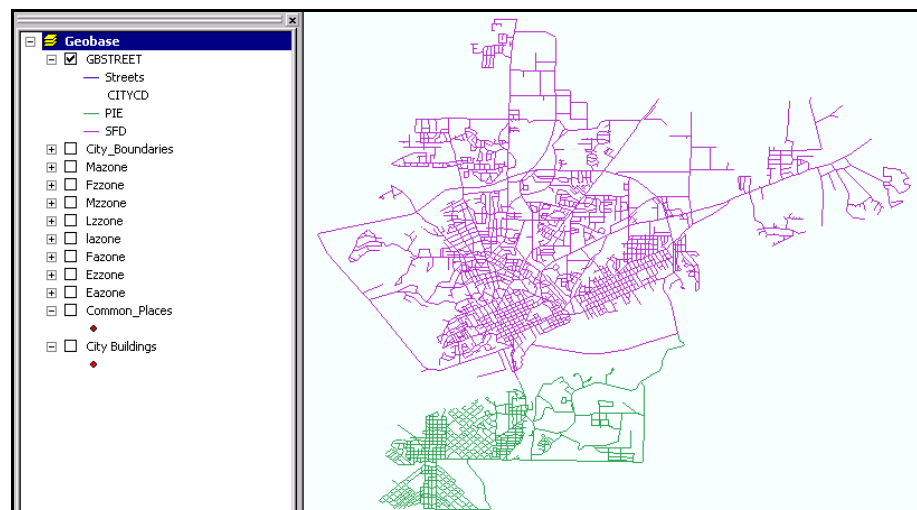
A value is added for each city listed in that city code field.

NOTE

To change the actual symbol or color value for a single symbol, double-click the symbol. The **Symbol Selector** dialog box opens. Select a different symbol or color. For more information, see your ArcMap documentation.

8. Click **OK**.

The street colors on your map change accordingly, and the table of contents reflects the line color distinction for each value.



Adding a city layer

To add a city layer to ArcMap:

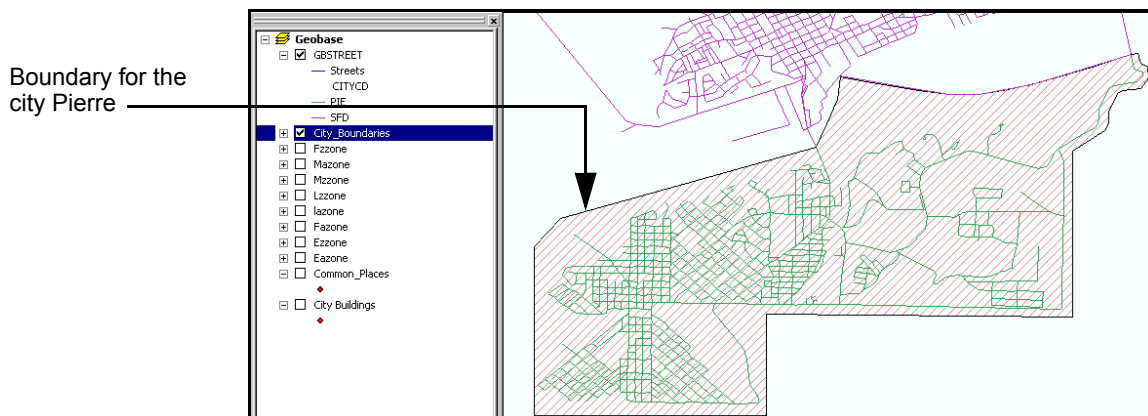
1. In the directory containing other ArcGIS files, create a shapefile for the city. See [“Creating a shapefile in ArcCatalog”](#) on page 88.

2. Add the shapefile to your map as a city layer. See [“Adding a layer in ArcMap”](#) on page 95.
3. Draw boundaries on the newly created city layer. See [“Drawing city boundaries”](#) on page 178.

Drawing city boundaries

To draw a city boundary:

1. In ArcMap, select the city layer. For example **City_Boundaries**.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. In the **Task** field, select **Create New Feature**.
4. In the **Target** field, select the name of the city layer being edited. For example, **City_Boundaries**.
5. Verify that ArcGIS’s snap feature is turned on. The snap feature locks the boundaries of polygonal regions so they touch but do not overlap. For more information, see your ArcGIS documentation or Help menu.
6. With the city layer selected, from the Editor toolbar, select the **Create New Feature** tool.
7. Draw a polygon over the area contained within the city boundary, as shown in the following example.



8. Repeat steps 6–7 for every city on the layer.
9. From the Editor toolbar, select **Editor > Save Edits**.

Applying color to city boundaries

To apply color to a city boundary:

1. In ArcMap's table of contents, right-click the geobase layer, and then select **Properties**.

The Layer Properties dialog box opens.

2. Click the **Symbology** tab.
3. In the **Show** area, click **Categories**.
4. From the displayed list, click **Unique Values**.

Symbol information for your street layer populates in the **Symbol**, **Value**, **Label**, and **Count** fields.

5. In the **Label** field, change the default value to **Streets**.
6. In the **Value Field** area, select the city code field that is being defined.
7. In the **Color Schemes** field, select a color scheme.
8. Click **Add All Values**.

A symbol entry is created for each city listed in the city code field.

NOTE

To change the actual symbol or color value for a single symbol, double-click the symbol. The **Symbol Selector** dialog box opens. Select a different symbol or color. For more information, see your ArcMap documentation.

9. Click **OK**.

The color for each city changes on your map, and the table of contents reflects the shape color for each symbol.

Validating Your ArcGIS Data

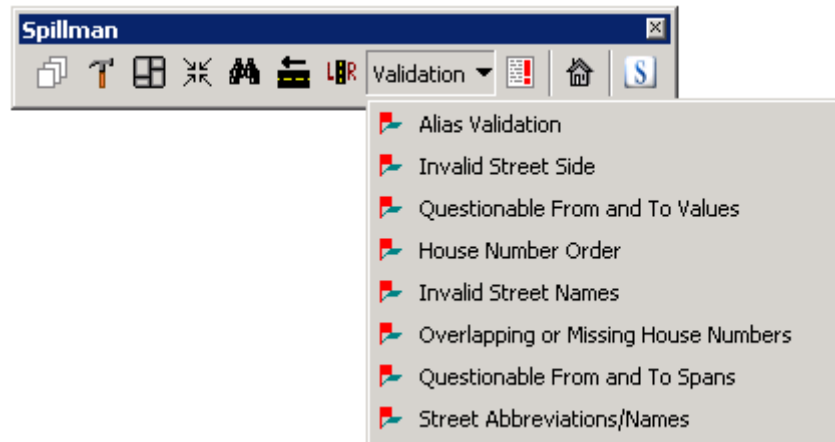
To flag potential problems with your map, several validation tools can be run on your ArcGIS data. Problems can be fixed before the ArcGIS data is transferred to Spillman. Using these tools can improve the accuracy of your map and the data integrity in Spillman.

When using the validation tools, results from each validation must be analyzed to determine whether data needs to change.

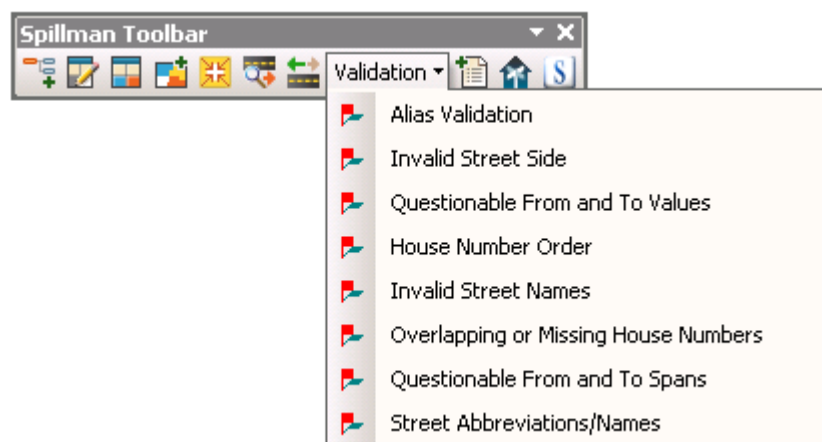
To access a validation tool:

1. From the Spillman toolbar, click the **Validation** icon.

The list of validation tools display.



Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

2. Select the appropriate validation tool:
 - **Invalid Street Names.** See “Searching for records with invalid street names” on page 183.
 - **House Number Order.** See “Searching for records with a questionable house number order” on page 184.
 - **Invalid Street Side.** See “Searching for records with invalid street side values” on page 185.
 - **Questionable From & To Values.** See “Searching for records with questionable From and To values” on page 186.
 - **Questionable From & To Spans.** See “Searching for records with questionable From or To value spans” on page 187.
 - **Overlapping or Missing House Numbers.** See “Searching for records with overlapping or missing house numbers” on page 189.
 - **Street Abbreviations/Names.** See “Evaluating abbreviations in the Street field” on page 191.
 - **Invalid Alias Records.** See “Searching for invalid alias records” on page 193.

NOTE

To protect the integrity of your map, the validation tools do not modify your ArcGIS data. Instead, the tools allow records that do not conform to general standards to be selected. Records with non-conforming data must be changed manually.

Marking valid, non-conforming records

When analyzing non-conforming records found by the validation tools, some records may be accurate as they are. These records can be marked so the software will not select them when the validation tools are run again.

To mark valid, non-conforming records:

1. Open the geobase Attributes table.
2. Create an **exclude** field. See “Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362.

3. In the Add Field dialog box, use the following values. The **exclude** field is case sensitive and must appear as shown in the following table.

Field name	Type	Properties
exclude	Text	Any value

4. From the Editor toolbar, select **Editor > Start Editing**.
5. In the **exclude** field on the geobase Attributes table, enter a value for all valid, yet non-conforming street records. Any description or character can be used, as the software does not select records that contain *any* value other than Null in this field.
6. From the Editor toolbar, select **Editor > Save Edits**.

Excluding records from the validation and loading process

If desired, street records can be marked so when the Spillman validation tools are run, the software ignores them, and the **Create Text Files** tool excludes them from the geobase output files. Therefore, when your GIS data is transferred to Spillman, the software will not load marked records into Spillman.

To exclude a record:

1. Open the geobase Attributes table.
2. If the **exclude** field does not exist, create it. See [“Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362](#).
3. In the Add Field dialog box, use the following values. The **exclude** field is case sensitive and must appear in all lowercase letters, as shown in the following table.

Field name	Type	Properties
exclude	Text	Any value

4. From the Editor toolbar, select **Editor > Start Editing**.
5. In the **exclude** field on the geobase Attributes table, enter an asterisk (*).
6. From the Editor toolbar, select **Editor > Save Edits**.

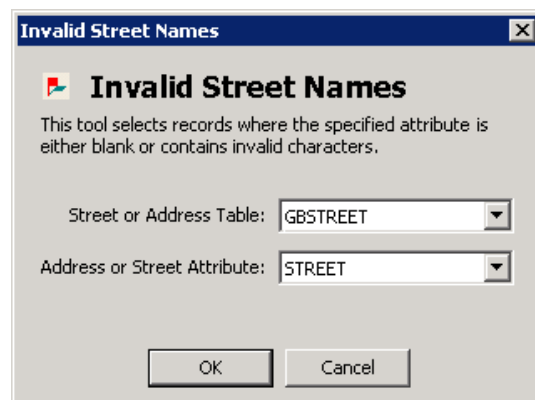
Searching for records with invalid street names

The **Invalid Street Names** tool is used to search a specified layer for street records that do not have an address, or contain an address with invalid characters.

To select records with invalid street names:

1. From the Spillman toolbar, click the **Validation** icon, and then select **Invalid Street Names**.

The Invalid Street Names dialog box opens.



2. In the **Street or Alias Table** field, select the name of the street or alias table to validate. For example, **GBSTREET**.
3. In the **Address or Street Attribute** field, select the corresponding field from the geobase Attributes table or alias table. For example, **STREET**.
4. Click **OK**.

The software begins searching. If the map is large, it may take a few minutes to search all records.

When finished, the software selects all non-conforming records and lists the number of selected streets at the bottom of the table.

5. In the selected records, fix the values where necessary so street names are valid.
6. From the Editor toolbar, select **Editor > Save Edits**.
7. Run the **Invalid Street Names** tool again to ensure all previously non-conforming street segment records are fixed.

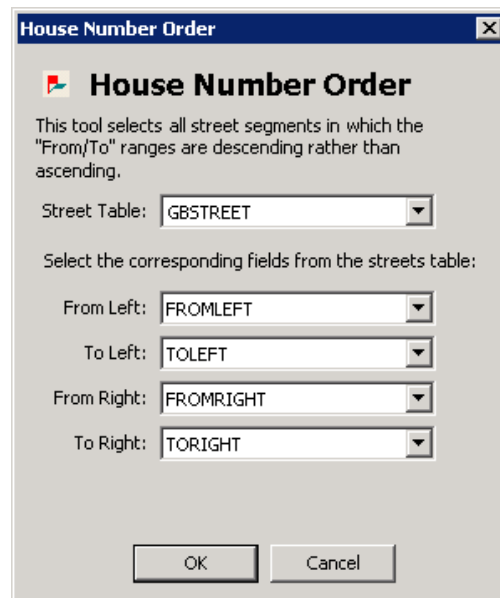
Searching for records with a questionable house number order

The **House Number Order** tool is used to search a specified layer for street records where either the “left” or “right” values are out of order (not ascending).

To search for records with a questionable house number order:

1. From the Spillman toolbar, click the **Validation** icon, and then select **House Number Order**.

The House Number Order dialog box opens.



2. In the **Street Table** field, select the geobase Attributes table. For example, **GBSTREET**.
3. In the **FromLeft**, **ToLeft**, **FromRight**, and **ToRight** fields, select the corresponding fields from the geobase Attributes table.
4. Click **OK**.

The software begins searching. If the map is large, it may take a few minutes to search all records.

When finished, the software selects all non-conforming records and lists the number of selected streets at the bottom of the table.

5. In the selected records, fix the values where necessary so the house numbers are in order. If a record is found that is correct, even though it is marked, enter a value in the **exclude** field so the tool will ignore

the marked record the next time it is run. For more information, see [“Marking valid, non-conforming records”](#) on page 181.

6. From the Editor toolbar, select **Editor** > **Save Edits**.
7. Run the **House Number Order** tool again to ensure all previously non-conforming street segment records are fixed.

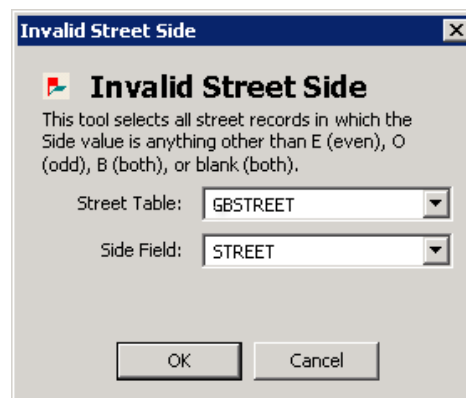
Searching for records with invalid street side values

The **Invalid Street Side** tool is used to search a specified layer for all street records where the Side field value is anything other than **E** (even), **O** (odd), **B** (both), or blank (both).

To locate records with invalid street side values:

1. From the Spillman toolbar, click the **Validation** icon, and then select **Invalid Street Side**.

The Invalid Street Side dialog box opens.



2. In the **Streets Table** field, select the geobase Attributes table. For example, **GBSTREET**.
3. In the **Side Field** field, select the corresponding field from the geobase Attributes table.
4. Click **OK**.

The software begins searching. If the map is large, it may take a few minutes to search all records.

When finished, the software selects all non-conforming records and lists the number of selected streets at the bottom of the table.

5. In the selected records, fix values where necessary so the value in the **Side Field** field is valid.

6. From the Editor toolbar, select **Editor > Save Edits**.
7. Run the **Invalid Street Side** tool again to ensure all previously non-conforming street segment records are fixed.

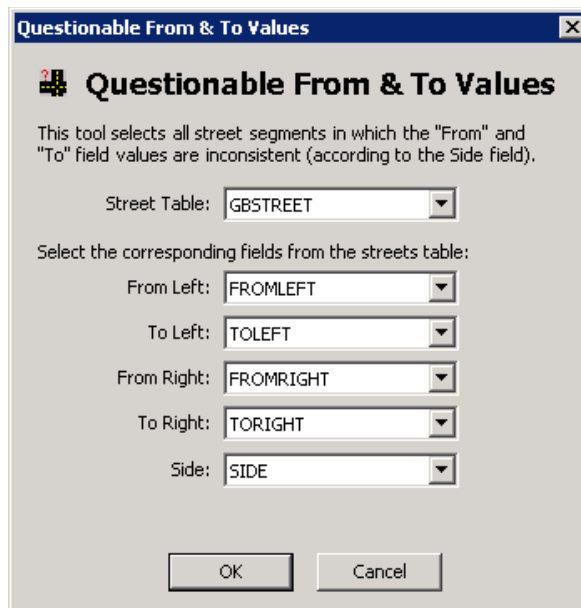
Searching for records with questionable From and To values

The **Questionable From & To Values** tool is used to search a specified layer for all street records where the “from” and “to” field values are inconsistent, according to the **Side** field.

To search records with questionable From and To values:

1. From the Spillman toolbar, click the **Validation** icon, and then select **Questionable From & To Values**.

The Questionable From & To Values dialog box opens.



2. In the **Streets Table** field, select the geobase Attributes table. For example, **GBSTREET**.
3. In the **FromLeft**, **ToLeft**, **FromRight**, **ToRight**, and **Side** fields, select the corresponding fields from the geobase Attributes table.
4. Click **OK**.

The software begins searching. If the map is large, it may take a few minutes to search all records.

When finished, the software selects all non-conforming records and lists the number of selected streets at the bottom of the table.

5. In the selected records, fix values where necessary so the “from” and “to” values are correct. If a record is found that is correct, even though it is selected, enter a value in the **exclude** field so the tool will ignore the marked record the next time it is run. For more information, see “[Marking valid, non-conforming records](#)” on page 181.
6. From the Editor toolbar, select **Editor > Save Edits**.
7. Run the **Questionable From & To Values** tool again to ensure all previously non-conforming street segment records are fixed.

Searching for records with questionable From or To value spans

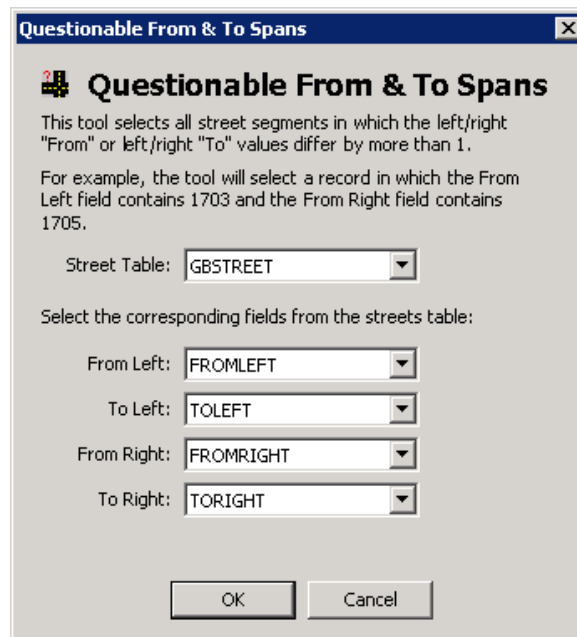
The **Questionable From & To Spans** tool is used to search a specified layer for all street records where the “from” or “to” values span more than two numbers.

For example, if a record’s **FromLeft** field contains 1703 and the **FromRight** field contains 1706, then the software would return it as a non-conforming record.

To search records with questionable From and To value spans:

1. From the Spillman toolbar, click the **Validation** icon, and then select **Questionable From & To Spans**.

The Questionable From & To Spans dialog box opens.



2. In the **Street Table** field, select the geobase Attributes table. For example, **GBSTREET**.
3. In the **FromLeft**, **ToLeft**, **FromRight**, and **ToRight** fields, select the corresponding fields from the geobase Attributes table.
4. Click **OK**.

The software begins searching. If the map is large, it may take a few minutes to search all records.

When finished, the software selects all non-conforming records and lists the number of selected streets at the bottom of the table.

5. In the selected records, fix the values where necessary so the span between the “from” and “to” fields is valid.
6. From the Editor toolbar, select **Editor > Save Edits**.
7. Run the **Questionable From & To Spans** tool again to ensure all previously non-conforming street segment records are fixed.

Searching for records with overlapping or missing house numbers

The **Overlapping or Missing House Numbers** tool is used to search a specified layer for street records (of the same name) with overlapping street ranges, or whose house numbers break succession.

The following scenarios demonstrate the **Overlapping or Missing House Numbers** tool.

Scenario 1

If segment A of Aspen Avenue contains house numbers 1–100, and segment B of Aspen Avenue contains house numbers 50–150, then the **Overlapping or Missing House Numbers** tool selects both street segments because they overlap from house numbers 50–100.

Scenario 2

If segment A of Aspen Avenue contains house numbers 1–100, and segment B of Aspen Avenue contains house numbers 100–150, then the **Overlapping or Missing House Numbers** tool *still* selects both street segments because they overlap on the house number 100.

NOTE

If both “left” fields for Aspen Avenue contain a value of zero (0), and the “right” fields contain the values 50 and 100, as shown in the following example, then the **Overlapping or Missing House Numbers** tool concludes that this street contains a house number range from 50–100, and not 0–100.

Attributes of GBSTREET										
Shape*	SIDE	CITYCD	STREET	FROMLEFT	TOLEFT	FROMRIGHT	TORIGHT	lz_evn	lz	
Polyline	E	SFD	ASPEN AVE	0	0	50	100	LS	LS	

Scenario 3

If segment A of Aspen Avenue contains house numbers 1–100, and segment B of Aspen Avenue contains house numbers 110–150, then the **Overlapping or Missing House Numbers** tool detects a gap between 100 (the last number in segment A) and 110 (the first number in segment B), and selects segment A because it is the segment that comes before the break.

To search records with overlapping or missing house numbers:

1. From the Spillman toolbar, click the **Validation** icon, and then select **Overlapping or Missing House Numbers**.

The Overlapping or Missing House Numbers dialog box opens.

Overlapping or Missing House Numbers

This tool locates street segments for which either the house numbers overlap, or there is a gap in house numbers from the previous segment.

Street Table: GBSTREET

Select the corresponding fields from the streets table

* Left Prefix: Lprefix	From Left: FROMLEFT
* Right Prefix: Rprefix	To Left: TOLEFT
Street: STREET	From Right: FROMRIGHT
Side: SIDE	To Right: TORIGHT
Left City Code: LCITYCD	
Right City Code: RCITYCD	

* Denotes an optional field.

Locate: ☒ Overlapping House Numbers
☒ Missing House Numbers

OK Cancel

2. In the **Streets Table** field, select the geobase Attributes table. For example, such as **GBSTREET**.
3. If uses grid-based addressing, in the **Left Prefix** and **Right Prefix** fields, enter the left and right prefix values from the geobase Attributes table.
4. In the **Street**, **Side**, **Left City Code** and **Right City Code** fields, select the corresponding field from the geobase Attributes table.
5. In the **FromLeft**, **ToLeft**, **FromRight**, and **ToRight** fields, select the corresponding fields from the geobase Attributes table.

6. In the **Locate** area, choose whether overlapping and missing houses are located together or separately by doing any of the following:
 - Select the **Overlapping House Numbers** check box to have the software select records with overlapping house number.
 - Select the **Missing House Numbers** check box to have the software select records with missing house numbers.
7. Click **OK**.

The software begins searching. If the map is large, it may take a few minutes to search all records.

When finished, the software selects all non-conforming records and lists the number of selected streets at the bottom of the table.

TIP

To show only selected records, click the **Selected** button.

8. In the selected records, fix the values where necessary so the streets are not overlapping or missing house numbers.
9. From the Editor toolbar, select **Editor > Save Edits**.
10. Run the **Overlapping or Missing House Numbers** tool again to ensure all previously non-conforming street segment records are fixed.

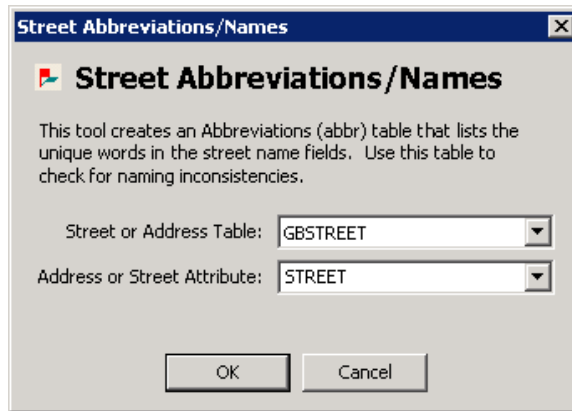
Evaluating abbreviations in the Street field

The **Street Abbreviations/Names** tool is used to create the Abbreviations table (abbr), which lists the words in the street name alphabetically. Use this table to check for naming inconsistencies.

To create the Abbreviations table (abbr):

1. From the Spillman toolbar, click the **Validation** icon, and then select **Street Abbreviations/Names**.

The Street Abbreviations/Names dialog box opens.



2. In the **Street or Alias Table** field, select the name of the street or alias table to validate.
3. In the **Address or Street Attribute** field, enter the name of the street field on the table being validated.
4. Click **OK**.

A dialog box opens in which to locate the map directory designated on the network. For more information, see [“Creating a directory for your map files” on page 81](#).

5. Click **Save**.
 - When the **Street Abbreviations/Names** tool is run for the first time, the software creates the `abbr` table and saves it to the specified directory.
 - When the **Street Abbreviations/Names** tool is run at any other time, the software adds the search results to the existing `abbr` table.

A dialog box opens, displaying the number of records added to the `abbr` table.

6. Click **OK**.
7. Evaluate the list of abbreviations for possible errors and inconsistencies.

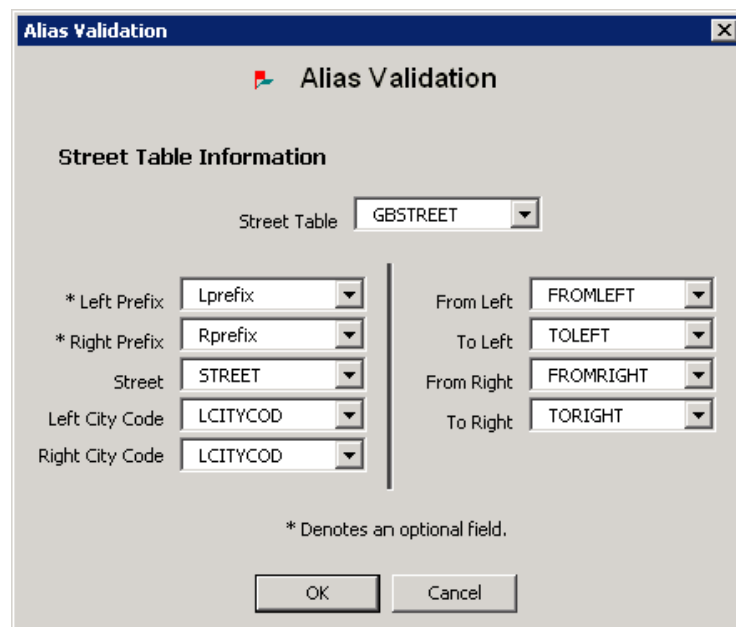
Searching for invalid alias records

The **Alias Validation** tool is used to compare information in the common place or street alias layer with information in the street layer. If the data does not match, then the alias record is highlighted as an invalid alias record.

To search for invalid alias records:

1. From the Spillman toolbar, click the **Validation** icon, and then select **Alias Validation**.

The Alias Validation dialog box opens.

The image shows the 'Alias Validation' dialog box. It has a title bar with the text 'Alias Validation' and a close button. Below the title bar is a section titled 'Alias Validation' with a small icon. Underneath is the 'Street Table Information' section. It contains a 'Street Table' dropdown menu with 'GBSTREET' selected. To the left of a vertical line are four optional fields: '* Left Prefix' (Lprefix), '* Right Prefix' (Rprefix), 'Street' (STREET), 'Left City Code' (LCITYCOD), and 'Right City Code' (LCITYCOD). To the right of the line are four fields: 'From Left' (FROMLEFT), 'To Left' (TOLEFT), 'From Right' (FROMRIGHT), and 'To Right' (TORIGHT). A note at the bottom states '* Denotes an optional field.' At the bottom are 'OK' and 'Cancel' buttons.

2. In the **Street Table** field, select the geobase Attributes table. For example, **GBSTREET**.
3. If using grid-based addressing, in the **Left Prefix** and **Right Prefix** fields, enter the corresponding fields from the geobase Attributes table.
4. In the **Street**, **Left City Code**, and **Right City Code** fields, select the corresponding fields from the geobase Attributes table.
5. In the **FromLeft**, **ToLeft**, **FromRight**, and **ToRight** fields, select the corresponding fields from the geobase Attributes table.
6. Click **OK**.

The software begins searching. If the map is large, it may take a few minutes to search all records.

When finished, the software selects all non-conforming records and lists the number of selected streets at the bottom of the table.

7. In the selected records, fix values where necessary so the alias record is correct, or delete the invalid record.
8. From the Editor toolbar, select **Editor > Save Edits**.

Pin Mapping and Adding Spillman Text Files to ArcGIS

Pin mapping is the process of using x-, y-coordinates to plot points of reference on a map. Pin mapping allows data relationships to be analyzed visually on a map, and can prove useful for crime analysis. For example, if investigating a series of thefts in your area, the location of each theft can be plotted on the map to reveal a possible pattern, or a centralized location, such as a city park or local high school.

To plot search data from Spillman in ArcMap, do the following:

- In the Spillman Default Report Formats table (*syformat*), create a report format for the Spillman table in which you are searching. See [“Creating a report format for a Spillman table” on page 195](#).
- In Spillman, create a text file containing the search results. See [“Creating a text file in Spillman” on page 197](#).
- Convert the text file to a dBASE file, and then add it to ArcMap. See [“Adding a Spillman text file” on page 199](#).
- Convert Spillman’s x- and y-coordinates. See [“Converting Spillman x- and y-coordinates to longitude and latitude” on page 203](#).
- Display the Spillman data as points on the map. See [“Displaying events from Spillman on the map” on page 205](#).

Creating a report format for a Spillman table

Once a table is searched on in Spillman, the results can be saved as a text file and imported into ArcMap. However, before creating a text file from a Spillman table, a report format must be created in the Spillman Default Report Formats table (*syformat*).

To create a report format in the Default Report Formats table (*syformat*):

1. At the Spillman command line, enter **syformat**.

The Default Report Formats screen opens.

2. Click **Add**.

The **Format Number** field automatically populated with an assigned number.

3. In the **Table Name** field, enter the name of the table to search, or click the Lookup button and select the name from the displayed list. For example, **lwmain** for the Law Incident table.

The **Report Title** field is automatically populated with the title of the table name.

4. In the **Format Description** field, enter a description for the format. For example, **geobase incidents**.

5. In the **Column Information** area, click the **Detail** button (Ctrl+N).

The Column Formats detail window opens.

6. Click **Add** to add a detail record for each field to include in the report format. For example, the following fields might be added:

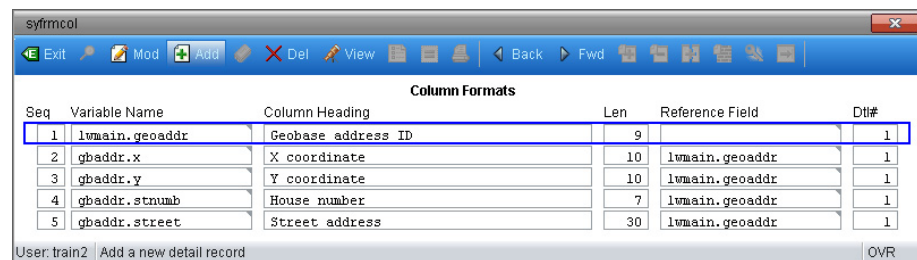
- **lwmain.geoaddr**
- **gbaddr.x**
- **gbaddr.y**
- **gbaddr.stnumb**
- **gbaddr.street**
- **gbaddr.citycd**

- **gbaddr.prefix** (if using grid-based addresses)

NOTE

When the text file is exported to ArcMap, the column heading cannot contain spaces. Therefore, rename the column heading for each record before exiting the **Column Format** detail window.

The Column Formats detail window will look similar to the following example.



7. Click **Exit** to close the Column Formats detail window.
8. Click **Accept** to save the syformat record.
9. Create a text file in Spillman. See [“Creating a text file in Spillman”](#) on page 197.

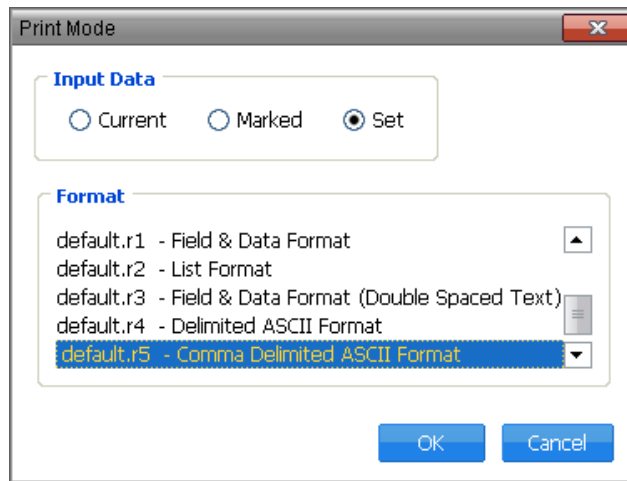
Creating a text file in Spillman

When a table is searched on in Spillman, the results can be saved as a text file and imported into ArcMap. For example, to display all thefts that have occurred in your jurisdiction, search the Spillman software for thefts, and then create a text file of the information to import into ArcMap.

To create a text file in Spillman:

1. Create a report format for the table being searched on. For more information, see [“Creating a report format for a Spillman table”](#) on page 195.
2. In Spillman, open the table to search on. For example, at the Spillman command line, enter **law** to open the Law Incident Table table (lwmain).
3. Search for the records to display in ArcMap. For example, all thefts.
4. When the search set is available, click **Print** (Ctrl+P).

The Print Mode dialog box opens.



5. In the **Input Data** area, select **Set**.
6. In the **Format** area, select **default.r5 - Comma Delimited ASCII Format**.
7. Click **OK**.

The Print dialog box opens.

8. Click **Advanced** to expand the Print dialog box.
9. Select **Print to Local File**.
10. In the **Print to Local File** area, click **Browse**.

The Save dialog box opens.

11. In the **Save In** field, locate the map folder designated for your map files. See [“Creating a directory for your map files”](#) on page 81.
12. In the **File Name** field, type a name for the text file. For example, **Thefts.txt**.
13. Click **Save**.

The software returns to the Print dialog box.

14. Click **Print**.
15. Add the text files to ArcMap. See [“Adding a Spillman text file”](#) on page 199.

Adding a Spillman text file

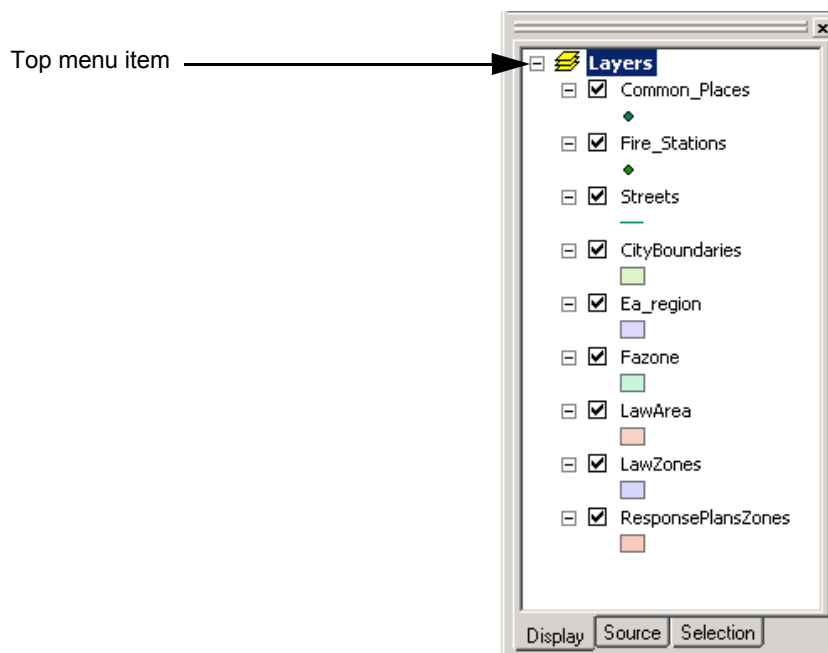
The following methods can be used to add a Spillman text file to ArcMap:

- “Adding a Spillman text file from ArcMap” on page 199
- “Adding a Spillman text file from ArcCatalog” on page 201

Adding a Spillman text file from ArcMap

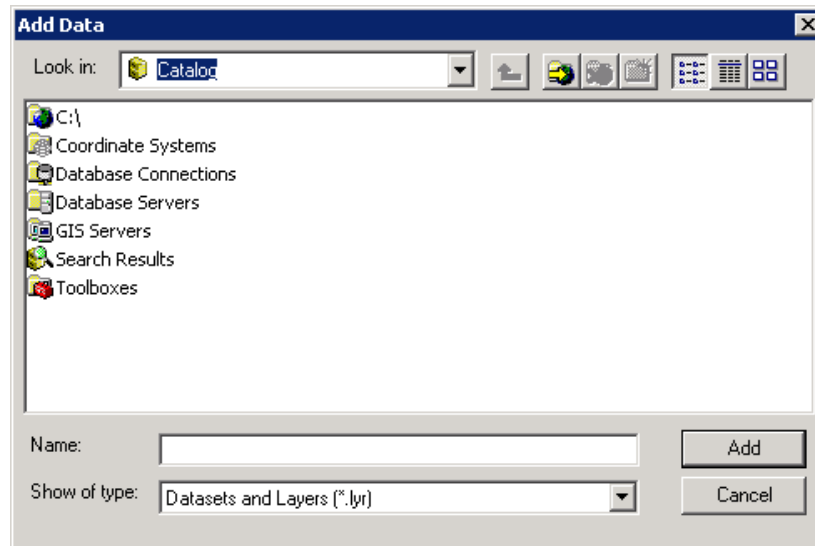
To add a Spillman text file from ArcMap:

1. In ArcMap, in the table of contents menu, right-click the uppermost menu item listed, as shown in the following example.



2. Click **Add Data**.

The Add Data dialog box opens.

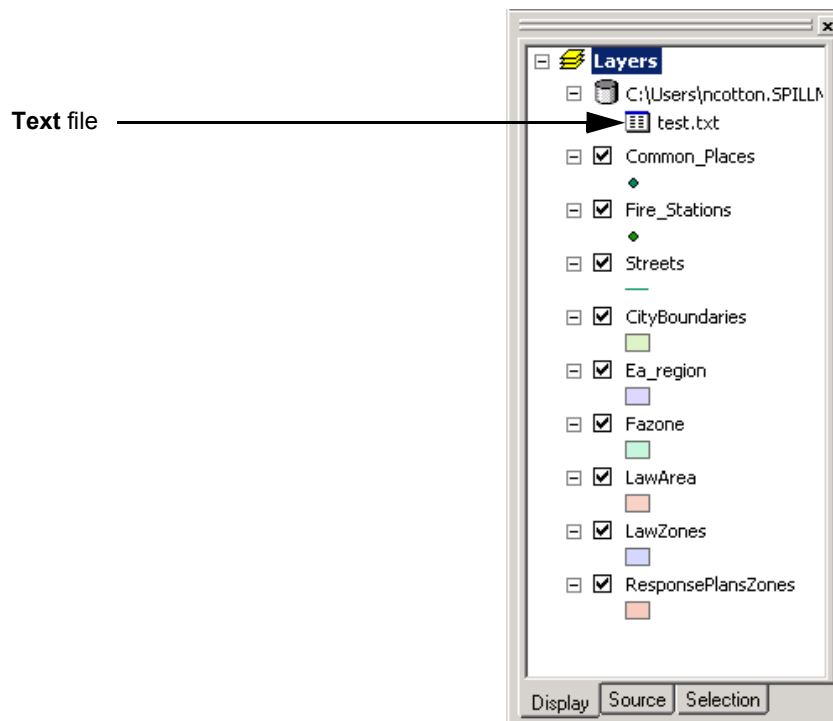


3. Browse for the desired text file to add, and then click **Add**.

NOTE

The browser displays only connected folders. If the text file is not located in an available folder, then a connection to the desired folder must be created. To create a folder connection, see ESRI's documentation.

The text file displays in the table of contents menu.



4. Click **Save**.

NOTE

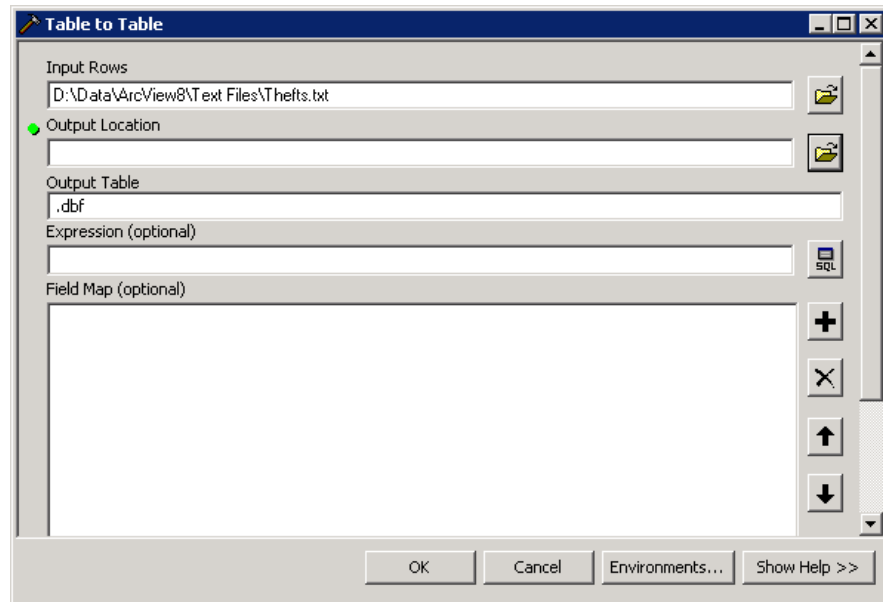
If your text file table data contains x-, y-coordinates that have not been converted to longitude and latitude coordinates (decimal degrees) for the map, then they will need to be. See [“Converting Spillman x- and y-coordinates to longitude and latitude” on page 203](#). For more complete information, see ESRI’s documentation.

Adding a Spillman text file from ArcCatalog

To add a Spillman text file from ArcCatalog:

1. In ArcCatalog, in the Catalog Tree menu, locate the text file to add to ArcMap. For example, `Thefts.txt`.
2. Right-click the text file, and then select **Export > To dBase (single)**.

The Table to Table dialog box opens, and the path to the selected .txt file populates in the **Input Rows** field.



3. In the **Output Location** field, enter the path to the location where the new file will be saved, or click the folder icon to browse for the location. Make sure to include the name of the new database file at the end of the path name. For example, **Thefts.dbf**. Do not add spaces.
4. To use the **Expression (optional)** and **Field Map (optional)** fields, see ESRI's documentation. Otherwise, leave these fields blank, as they are optional and not necessary to complete the process.
5. Click **OK**.

ArcGIS converts the text file to a dBASE file.

6. In ArcMap, add the dBASE file to your map. See [“Adding a dBASE table to ArcMap”](#) on page 360.
7. Select **File > Save**.

NOTE

If your text file table data contains x-, y-coordinates that have not been converted to longitude and latitude coordinates (decimal degrees) for the map, then they will need to be. See [“Converting Spillman x- and y-coordinates to longitude and latitude”](#) on page 203. For more complete information, see ESRI's documentation.

Converting Spillman x- and y-coordinates to longitude and latitude

In Spillman, the software converts and condenses x-, y-coordinates into smaller, more manageable numbers. However, when information is exported from Spillman to ArcGIS, the smaller numbers must be converted back into standard latitude and longitude coordinates (decimal degrees) for the map.

To convert Spillman x- and y-coordinates to latitude and longitude:

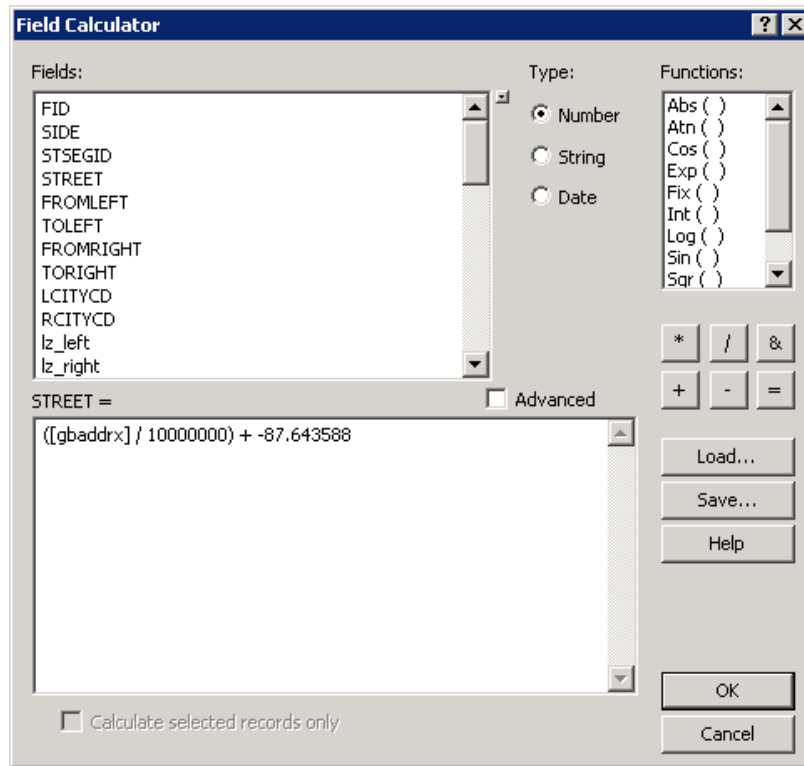
1. If the **Create Zones** tool has not yet been run, do so before converting the Spillman x-, y-coordinates. For more information, see [“Using the Create Text Files tool” on page 221](#).
2. In ArcMap, open the Master Values table, and then write down the following values to reference later: Scaling factor, X factor, and Y factor.
3. Open the dBASE table exported from Spillman. For example, `Theft.dbf`. See [“Opening a dBASE table in ArcMap” on page 361](#).
4. In the Spillman .dbf table, add an **X** and **Y** field. See [“Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362](#).
5. In the Add Field dialog box, use values from the following table.

Field name	Type	Field is for
X	Double	The converted map x-coordinate
Y	Double	The converted map y-coordinate

6. Select the Spillman .dbf table. For example, `Theft.dbf`.
7. From the Editor toolbar, select **Editor > Start Editing**.
8. Select the Spillman .dbf table.
9. Right-click the **X** field, and then select **Calculate Values**.
The Field Calculator dialog box opens.
10. In the **Calculate** field, enter the scaling factor and x factor values from step 1 in the following formula:

$$([name\ of\ the\ x\ field\ from\ syformat] / scaling\ factor) + x\ factor$$

For example, if the **X** field from the **syformat** table is **gbaddrx**, with the scaling factor as 10000000 and the x factor as -87.643588, then enter $([gbaddrx] / 10000000) + -87.643588$.



11. Click **OK**.

The x-coordinates for the map are entered in the **X** field in the designated Attributes table, as shown in the following example.

OID	geoaddr	gbaddrx	gbaddy	housenum	street	citycd	X	Y
0	0	-297200	-237925	201	COFFEE RD	WVC	-87.673308	0
1	0	-343824	-503278	1541	DARBY DR	PIE	-87.677970	0
2	0	539930	89365	100	EAGLE COVE	ERC	-87.589595	0
3	0	-340687	104148	301	ELDER ST	SFD	-87.677657	0
4	0	680620	153975	400	HARRIS DR	ERC	-87.575526	0
5	0	-505240	340185	301	KINGSTON DR	NPC	-87.694112	0
6	0	-309120	164115	500	MARS HILL RD	SFD	-87.6745	0
7	0	-322940	635775	115	ROYAL OAK RD	NPC	-87.675882	0
8	40	-28640	-54605	102	S MAIN ST	SFD	-87.646452	0
9	40	-28640	-54605	102	S MAIN ST	SFD	-87.646452	0
10	129	-38070	-59965	101	S RICHARDS ST	SFD	-87.647395	0
11	0	739990	264427	300	SKYPARK DR	ERC	-87.569589	0
12	0	-547410	-483005	100	W 10TH ST	PIE	-87.698329	0

12. Select the Spillman .dbf table.

13. Right-click the **Y** field, and then select **Calculate Values**.

The Field Calculator dialog box opens.

14. In the **Calculate** field, enter the scaling factor and y factor values from step 1 in the following formula:

([name of the y field from syformat] / scaling factor) + y factor

For example, if the **Y** field from *syformat* is *gbaddy*, with the scaling factor as 10000000 and the y factor as 34.8162885, then enter **[gbaddy] / 10000000) + 34.8162885**.

15. Click **OK**.

The y-coordinates for the map are entered in the **Y** field in the designated Attributes table.

16. From the Editor toolbar, select **Editor > Save Edits**.

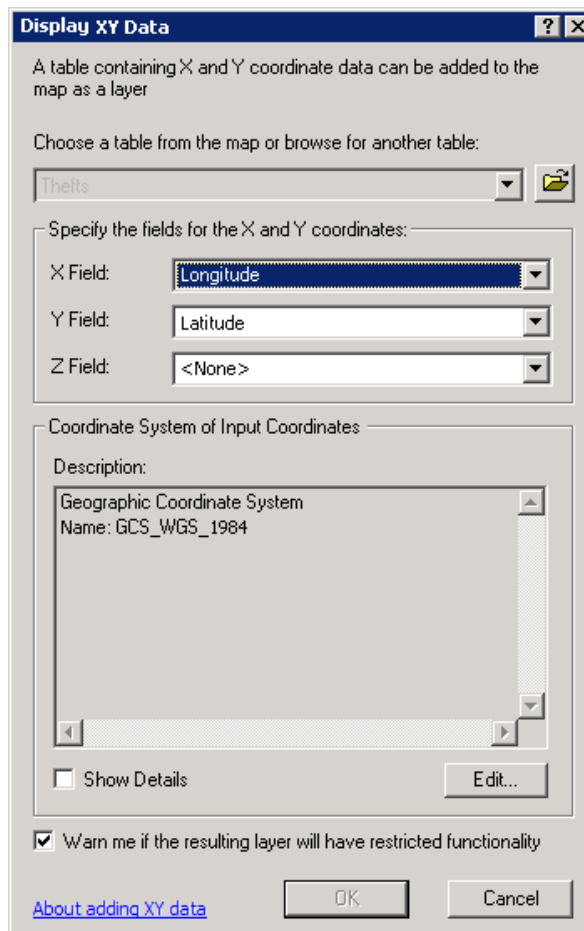
Displaying events from Spillman on the map

Once a text file is added to ArcMap, and the x, y-coordinates are converted to longitude and latitude coordinates (decimal degrees) if necessary, then the information can be displayed on the map as an event.

To display Spillman events on the map:

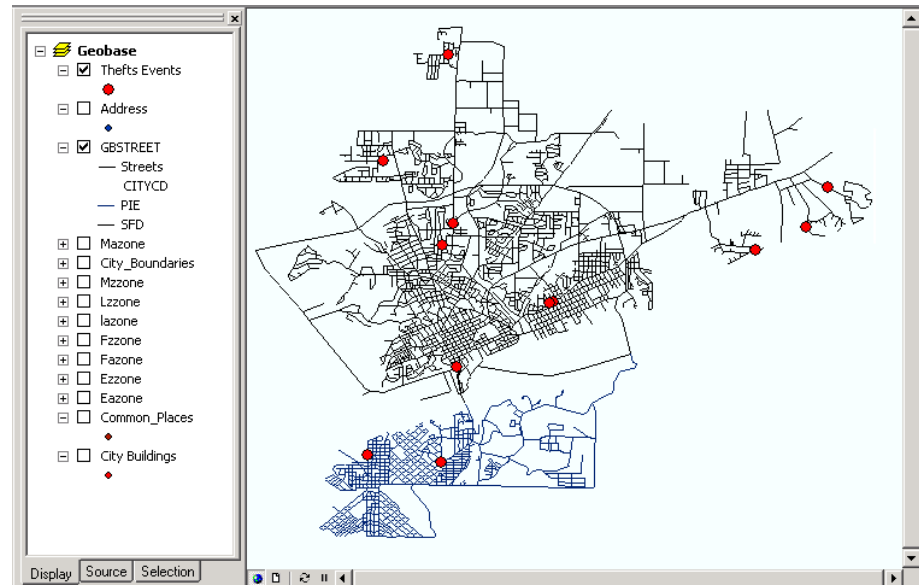
1. In ArcMap, open your map.
2. From the table of contents, click the **Source** tab.
3. Right-click the Spillman *.dbf* file, such as *Theft.dbf*, and then select **Display XY Data**.

The Display XY Data dialog box opens.



4. Click **OK**.

A layer is created for the Spillman events, and each event is plotted on the map, as shown in the following example for theft locations



chapter 4

Transferring Data from ArcGIS to Spillman

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Introduction

To transfer data from ArcGIS into the Spillman database, complete the following tasks:

- Run the **Create Zones** tool in ArcGIS to create the Master Values and tbzones tables. See [“Using the Create Zones tool” on page 211](#).
- Open the tbzones table in ArcGIS and enter information in the **desc** and **agency** fields. See [“Entering information in the desc and agency fields” on page 219](#).
- Run the Validation tools in ArcGIS, if it has not been done yet. See [“Validating Your ArcGIS Data” on page 180](#).
- Run the **Create Text Files** tool to store your ArcGIS data in text files for transfer to the Spillman software. See [“Using the Create Text Files tool” on page 221](#).
- Use your agency’s file transfer protocol to transfer the data from ArcGIS to the Geo directory in Spillman. See [“Transferring output files from ArcGIS to Spillman” on page 228](#).
- Run `gbload` to load the geobase files into the Geo database and validate your output files. See [“Validating data and loading geobase files into the Geo database” on page 229](#).
- Check for errors. See [“Viewing the gbload.log file and fixing validation errors” on page 233](#).
- Test the data. See [“Testing the geobase data” on page 238](#).
- Transfer the data from the Geo database to the Live database. See [“Transferring data from the Geo database to the Live database” on page 248](#).
- Fix errors in the Live database. See [“Fixing errors in the Live database” on page 250](#).

Preparing ArcGIS Data for Conversion

After setting up your map in ArcGIS, prepare the ArcGIS data for conversion into a Spillman-compatible format by doing the following:

- “Using the Create Zones tool” on page 211
- “Changing the center of a zone” on page 214
- “Using the Master Values table” on page 216
- “Using the tbzones table” on page 218
- “Checking the ArcGIS data for Spillman compatibility” on page 219

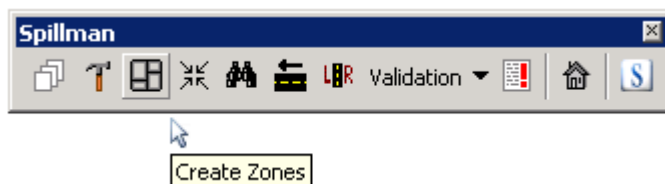
Using the Create Zones tool

The **Create Zones** tool is used to create the following:

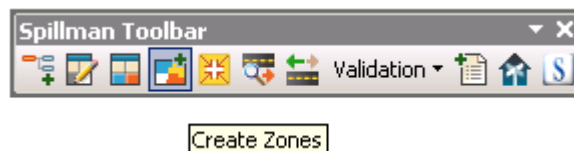
- The Master Values table and tbzones table
- Text files with information from the Master Values table and tbzones table to be transferred into Spillman

To use the **Create Zones** tool:

1. From the Spillman toolbar, click **Create Zones** icon.

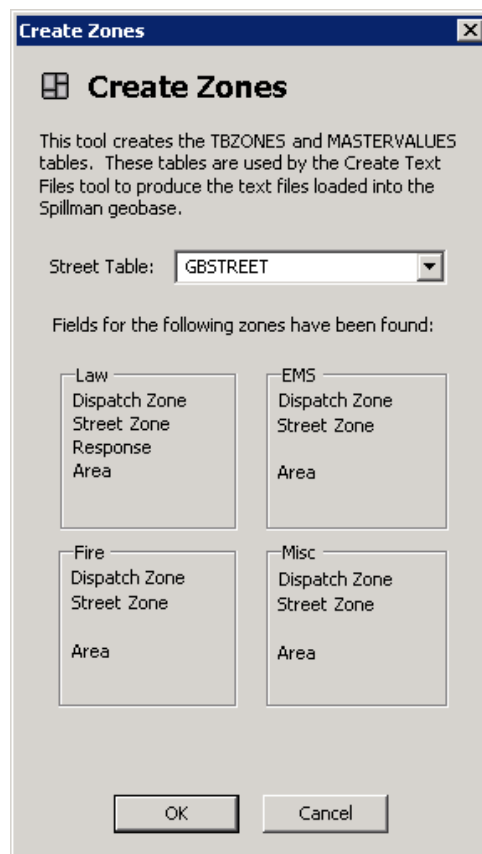


Spillman Classic toolbar for ArcGIS 9.3



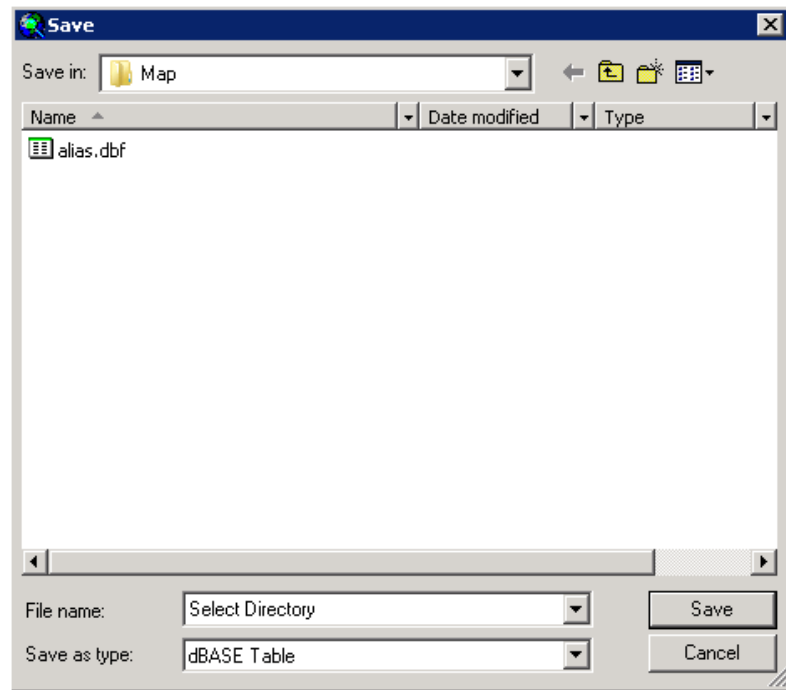
Spillman Classic toolbar for ArcGIS 10

The Create Zones dialog box opens.



2. In the **Streets Table** field, select the geobase Attributes table. For example, GBSTREET.
3. Click **OK**.

The Save dialog box opens.



4. Locate the directory to save the Master Values and tbzones tables in.
5. In the **Name** field, do not change the default value as displayed. The **Create Zones** tool will create the name.
6. Click **Save**.

A dialog box opens, stating the software is running the **Create Zones** tool.

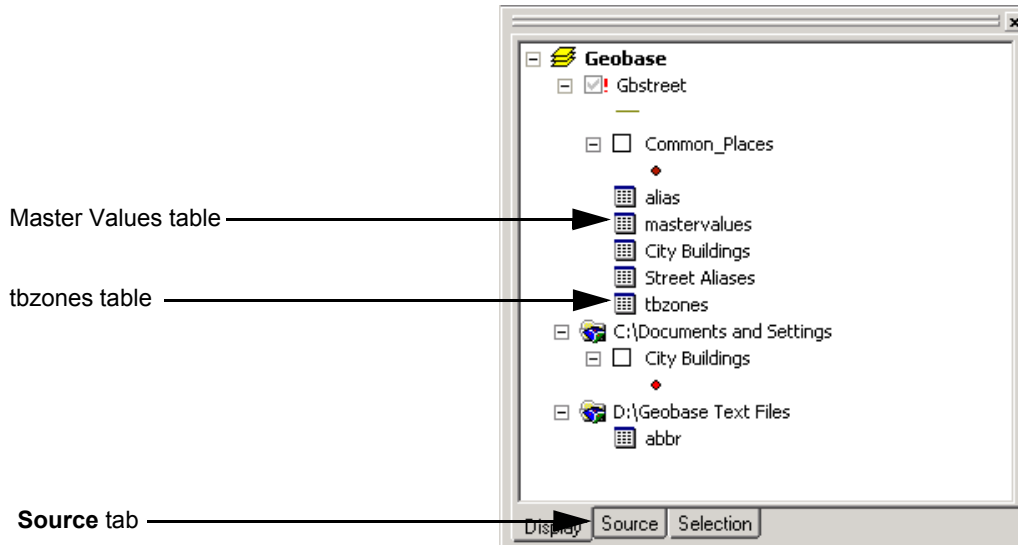
NOTE

If any zone has a null value, the software displays an error message. Click **OK**, and then change the null value(s) to the appropriate zone code or blank. Run the **Create Zones** tool again.

Once finished, a prompt box opens asking whether to update the X and Y center of all zones.

7. Do one of the following:
 - To update the center points of all of zones, click **Yes**.
 - To *not* update the zone centers, click **No**.

8. From the table of contents, select the **Source** tab to view the Master Values and tbzones tables.



9. From the Editor toolbar, select **Editor > Save Edits**.

Changing the center of a zone

The center of a zone can be changed to any location where the x- and y-coordinates are. For example, to make a fire station the zone center in a fire zone.

To change the center of a zone:

1. From the table of contents, select the **Source** tab.
2. Open the tbzones table.
3. From the Editor toolbar, select **Editor > Start Editing**.
4. Select the zone record for the zone being modified.
5. In the **xcenter** field, enter the x-coordinate for the location being added as the zone's center.
6. In the **ycenter** field, enter the y-coordinate for the location being added as the zone's center.
7. From the Editor toolbar, select **Editor > Save Edits**.

Using the Update Zone Centers tool

If the location of a zone's center is changed, and the values are to be replaced with the default zone center, use the **Update Zone Centers** tool.

To use the **Update Zone Centers** tool:

1. From the Spillman toolbar, click the **Update Zone Centers** icon.

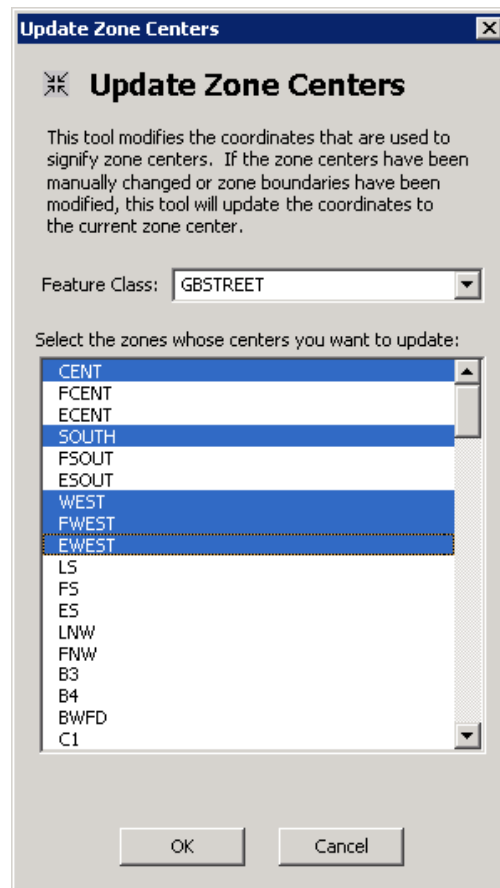


Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

The Update Zone Centers dialog box opens.



2. In the **Feature Class** field, select the geobase Attributes table.
3. In the **Select the zones whose centers you want to update** field, select each zone whose centers need updating.
4. Click **OK**.

A dialog box opens, indicating the software is updating the zone centers.

5. From the Editor toolbar, select **Editor > Save Edits**.

Using the Master Values table

The Master Values table is created when the **Create Zones** tool is used. For more information, see [“Using the Create Zones tool” on page 211](#).

The Master Values table determines the scaling factors and the minimum and maximum values for x and y, which indicate the boundaries for the entire map. The **Create Text Files** tool uses this information to convert ArcGIS data into text files, as shown in the following example.

OID	calc_scale	used_scale	calc_xfact	calc_yfact	used_xfact	used_yfact	minx	maxx
0	1000000	1000000	-87.643588	34.816289	-87.643588	34.816289	-87.729976	-87.5572

NOTE

If the map's latitude and longitude values are loaded into Spillman, the software does not display the decimal point. For example, if the x-coordinate value is -87.98239487 , then the software multiplies the coordinate by the used scaling factor to get to an integer, which would be -87982394 .

Use the following table to determine the x- and y-coordinate factor values.

To use this geobase origin	Enter the following value(s) in the used_xfact and used_yfact fields
The earth's longitude and latitude point of origin	zero (0)
The center of your agency's map	The Create Zones tool generates these values. For information on how the software calculates these values, see "Finding the center of your map" on page 217 .
A major landmark, intersection, or any location on your map	The longitude and latitude values for the landmark or location.

The x- and y-coordinates can be manually changed to latitude and longitude for any address in the Geobase Street Segments table (gbstreet). After changes are made, run gbrekey.

Finding the center of your map

The software uses the x and y factors as the center of your map. To calculate the x factor, add the minimum and maximum x values of the map and divide the total by 2.

For example, if the minimum and maximum x values are -112.066667 and -111.566667 , then the x factor would be -111.816667 .

$$\begin{aligned} -112.066667 + -111.566667 &= -223.633334 \\ -223.633334/2 &= -111.816667 \end{aligned}$$

To calculate the y factor, add the minimum and maximum y values of the map and divide the total by 2.

For example, if the minimum and maximum y values are 41.50 and 42.00 , then the y factor would be 41.75 .

$$\begin{aligned} 41.50 + 42.00 &= 83.50 \\ 83.50/2 &= 41.75 \end{aligned}$$

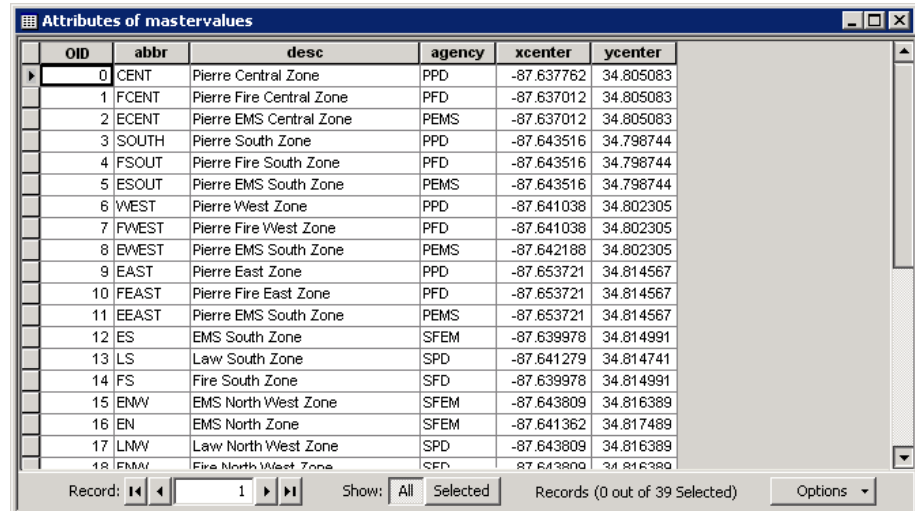
Using the tbzones table

The tbzones table is created when the **Create Zones** tool is used. For more information, see [“Using the Create Zones tool” on page 211](#).

The tbzones table contains a record for each zone. Each record contains the following information:

- The name of the zone (**abbr** field)
- An empty field (**desc**) to enter a description of the zone
- An empty field (**agency**) to enter the name of the zone’s responsible agency
- The x-center of your map (**xcenter** field)
- The y-center of your map (**ycenter** field)

In each zone record, enter information in the **desc** and **agency** fields, as shown in the following example.



OID	abbr	desc	agency	xcenter	ycenter
0	CENT	Pierre Central Zone	PPD	-87.637762	34.805083
1	FCENT	Pierre Fire Central Zone	PFD	-87.637012	34.805083
2	ECENT	Pierre EMS Central Zone	PEMS	-87.637012	34.805083
3	SOUTH	Pierre South Zone	PPD	-87.643516	34.798744
4	FSOUT	Pierre Fire South Zone	PFD	-87.643516	34.798744
5	ESOUT	Pierre EMS South Zone	PEMS	-87.643516	34.798744
6	WEST	Pierre West Zone	PPD	-87.641038	34.802305
7	FWEST	Pierre Fire West Zone	PFD	-87.641038	34.802305
8	EWEST	Pierre EMS South Zone	PEMS	-87.642188	34.802305
9	EAST	Pierre East Zone	PPD	-87.653721	34.814567
10	FEAST	Pierre Fire East Zone	PFD	-87.653721	34.814567
11	EEAST	Pierre EMS South Zone	PEMS	-87.653721	34.814567
12	ES	EMS South Zone	SFEM	-87.639978	34.814991
13	LS	Law South Zone	SPD	-87.641279	34.814741
14	FS	Fire South Zone	SFD	-87.639978	34.814991
15	ENW	EMS North West Zone	SFEM	-87.643809	34.816389
16	EN	EMS North Zone	SFEM	-87.641362	34.817489
17	LNW	Law North West Zone	SPD	-87.643809	34.816389
18	ENW	Fire North West Zone	SFD	-87.643809	34.816389

For more information, see “Entering information in the desc and agency fields” on page 219.

Entering information in the desc and agency fields

To enter values in the **desc** and **agency** fields of the tbzones table:

1. From the table of contents, select the **Source** tab.
2. Open the tbzones table.
3. From the Editor toolbar, select **Editor > Start Editing**.
4. Select the desired zone record.
5. In the **desc** field, enter a description of the zone. For example, **Central Law Dispatch zone**.
6. In the **agency** field, enter the responsible agency for that zone.
7. Repeat steps 4–6 for each zone record in the tbzones table.
8. From the Editor toolbar, select **Editor > Save Edits**.

Checking the ArcGIS data for Spillman compatibility

Before transferring data from ArcGIS to Spillman, make sure it is compatible with Spillman by completing the following tasks in ArcGIS:

- Verify that all zone and reporting layers are named according to the conventions required by the Spillman software and that the files are saved to the proper directory. See [“Setting Up the Zone Layers” on page 158](#).
- Run the validation tools on your ArcGIS data. See [“Validating Your ArcGIS Data” on page 180](#).
- Make sure the tbzones table contains a description and responsible agency for each zone. See [“Using the tbzones table” on page 218](#).
- Make a backup copy of all ArcGIS tables, and then save and store the disk in a safe place.

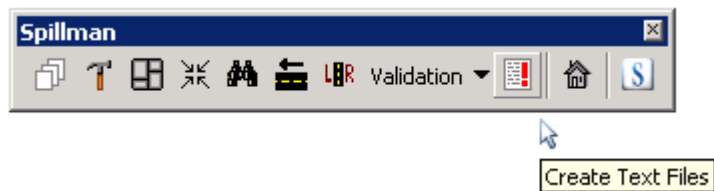
Making ArcGIS Data Compatible with Spillman

After the ArcGIS data has been prepared and cleaned up to be compatible with Spillman, use the **Create Text Files** tool to place the ArcGIS data into text files.

Using the Create Text Files tool

To run the **Create Text Files** tool:

1. From the Spillman toolbar, click the **Create Text Files** icon.



Spillman Classic toolbar for ArcGIS 9.3



Spillman Classic toolbar for ArcGIS 10

The Create Text Files dialog box opens.

Create Text Files

This tool creates the files used to update the Spillman geobase tables. The files created are copied to the Spillman server and loaded using the GBLOAD process. Since the files are created with an '.out' extension, they are also known as '.out files'.

Street Table Information

Street Table: GBSTREET

* Left Prefix: Lprefix From Left: FROMLEFT

* Right Prefix: Rprefix To Left: TOLEFT

Street: STREET From Right: FROMRIGHT

Left City Code: LCITYCD To Right: TORIGHT

Right City Code: RCITYCD

Side: SIDE * Left Zip: LZIP

* Location: * Right Zip: RZIP

☒ Advanced Street Aliases (For street names containing more than two words, remove the first word and create an additional alias record.)

Address Table Information

☒ Use Address Layer

Address Table: Thefts Events X Coordinate: gbaddrx

* Prefix: street Y Coordinate: gbaddy

Street: * Location:

House Number: housenum * Suffix:

City Code: citycd

* Denotes an optional field.

OK Cancel

2. In the **Street Table Information** area, do the following:
 - In the **Street Table** field, select the geobase Attributes table. For example, GBSTREET.

- In the **Right Prefix** and **Left Prefix** fields, select the corresponding fields from your geobase Attributes table, only if grid-based addressing is being used.
- In the **Street**, **Left City Code**, **Right City Code**, and **Side** fields, select the corresponding fields from the geobase Attributes table.
- In the **Location** field, select the corresponding field from the geobase Attributes table, only if the **Location** field is being used in ArcGIS.
- In the **FromLeft**, **ToLeft**, **FromRight**, and **ToRight** fields, select the corresponding fields from the geobase Attributes table.
- In the **Left Zip** and **Right Zip** fields, select the corresponding fields from the geobase Attributes table.
- In the **Use address layer** field, select the check box if your agency's address layer is to be loaded into Spillman.

If your agency does not have an address layer, or if it does have one but addresses will not be loaded into Spillman, skip to step 4.

3. In the **Address Table Information** area, do the following:

- In the **Address Table** field, select your address layer.
- In the **Prefix** field, select the corresponding field from the geobase Attributes table, only if grid-based addressing is being used.
- In the **Street**, **House Number**, and **City Code** fields, select the corresponding fields from the geobase Attributes table.
- In the **X** and **Y** fields, do one of the following:
 - If your address layer contains **X** and **Y** fields, enter the corresponding fields from the geobase Attributes table. The software uses the X and Y values from the **X** and **Y** fields in the Attributes table.
 - To make the software generate the X and Y values based on the address point, select the blank value for the **X** and **Y** fields.

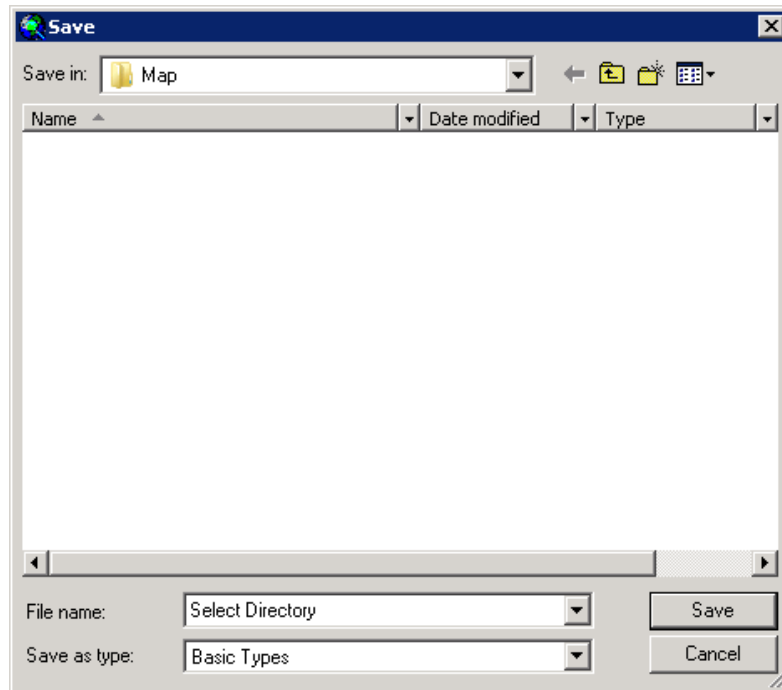
NOTE

If the corresponding X and Y fields are selected from the Attributes table, and coordinates have not been entered in those fields, then the software populates the X and Y fields with a random value. Therefore, if values are not entered in your X and Y fields, select the blank value instead of the corresponding X and Y fields from the Attributes table.

- In the **Location** and **Suffix** fields, select the corresponding fields from the address Attributes table, only if loading information in these fields.

4. Click **OK**.

The Save dialog box opens.

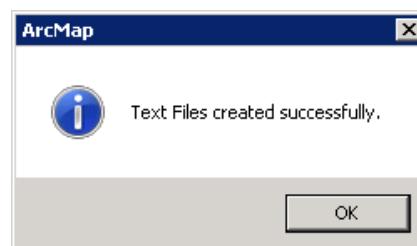


5. Locate the directory to save the map text files to.

6. Click **Save**.

The software opens a dialog box, stating the software is creating the text files.

When finished, the ArcMap dialog box opens, displaying the following message: Text Files created successfully.



7. Click **OK**.

The **Create Text Files** tool performs the following tasks:

- Copies the polylines from your map into a text file.
- Determines the low and high addresses for each street segment.
- Writes street segment data to the `gbstreet` output file.
- Writes street name data to the `gbstname` output file.
- Writes street name data to the `gbsaka` output file to create the trivial alias record for each street. The trivial alias is the same as the complete, actual street name, and is used to find the sound-alike match when users enter the full street name.
- Writes street name data to the `gbaddr` output file, if the **Use address layer** check box is selected.

Converting data from ArcGIS tables to Spillman tables

The **Create Text Files** tool converts your ArcGIS data into a format compatible with Spillman. When the tool is run, it extracts information from the various ArcGIS tables, such as geobase, alias, tbzones, and address, and saves it to tables in Spillman.

Some Spillman tables receive information from multiple ArcGIS tables. For example, the Spillman Geobase Street Segments table (`gbstreet`) receives information from the geobase and tbzones tables.

Information is saved from the ArcGIS geobase table to the following Spillman tables:

- Geobase Street Segments (`gbstreet`)
 - One `gbstreet` record is created for each street segment created in ArcGIS. The beginning and ending house numbers for the segment are obtained from the geobase table, such as the **Fromleft** and **Toright** fields, and saves them in the **Number** fields of the `gbstreet` record. The geobase map provides the x- and y-coordinates. In addition, if values are specified in the **LZip** and **RZip** fields in ArcMap, the software auto-populates the **Even Zip** and **Odd Zip** fields in the `gbstreet` record.
- Geobase Street Names (`gbstname`)
 - One `gbstname` record is created for each complete street name entered in ArcGIS.

For example, the following `gbstname` record lists all the segments defined for the street name Alexander St, as well as all the street aliases defined for the street..

The screenshot shows the 'gbstname' application window titled 'Geobase Street Names'. It has a menu bar (File, Edit, Search, Tools, Help) and a toolbar with icons for Exit, Search, Modify, Add, Clear, Delete, View, List, Total, Print, Back, Forward, and Add. Below the toolbar is a 'Street' section with a search field containing 'ALEXANDER ST'. Below the search field are fields for Street Alias (ALEXANDER ST), House Numbers (0), City (0), and Soundex (alexandarst). Below this is a 'Segments' section with a table showing two segments. The table has columns for City, Side, Number, Begin X Coord, Begin Y Coord, End X Coord, and End Y Coord. The first segment is for City 'SFD', Side 'B', Number '2800', with coordinates (-34612, 27611) to (-34612, 29111). The second segment is for City 'SFD', Side 'B', Number '2900', with coordinates (-34612, 29111) to (-34512, 32612).

Street		House Numbers	City	Soundex
Street Name: ALEXANDER ST		0	0	alexandarst
Street Alias				
ALEXANDER ST				

Segments		Begin	End
City	Side	Number	X Coord Y Coord
SFD	B	2800	-34612 27611
SFD	B	2900	-34612 29111

User: train2 | Search again to add records to current selection set | OVR Rec 1

- Alias Street Names (`gbsaka`).
 - Using information from the geobase table, at least one `gbsaka` record is created for each complete street name.
 - The `gbsaka` record defines the trivial alias, which is the same as the street name itself and is used for sound-alike searches. If other street aliases are defined on the alias layer, the tool creates a `gbsaka` record for each alias.

In the following gbsaka record, the starting and ending house numbers are 0,0 because the trivial alias applies to the entire street. The software interprets the field values as a trivial alias.

gbsaka Alias Street Names

File Edit Search Tools Help

GB Alias Street Names

Exit Srch Mod Add Clr Del View List Totl Prt Back Fwd Jadd

Invl Orig Use

Street

Street Name: ALEXANDER ST

Street Alias: ALEXANDER ST Soundex: alexandarst

City:

Street Prefix:

Start House Number: 0

Final House Number: 0

Segments

Cty	Side	Begin			End		
		Number	X Coord	Y Coord	Number	X Coord	Y Coord
SFD	B	2800	-34612	27611	2815	-34612	29111
SFD	B	2900	-34612	29111	2949	-34512	32612

User: train2 Search again to add records to current selection set

OVR Rec: 1

Transferring ArcGIS Data to Spillman

To transfer your GIS data from ArcGIS data into the Spillman database, complete the following tasks:

- “Transferring output files from ArcGIS to Spillman” on page 228
- “Validating data and loading geobase files into the Geo database” on page 229
- “Viewing the gload.log file and fixing validation errors” on page 233

NOTE

The `gload.log` file may contain errors that must be fixed in the Live database. Wait until after the data is loaded into your Live database to fix these errors.

- “Testing the geobase data” on page 238
- “Transferring data from the Geo database to the Live database” on page 248
- “Fixing errors in the Live database” on page 250

NOTE

Each time `gload` is run to fix errors, the software creates a new `gload.log` file. If `gload -l` is run, then the software appends new errors to the existing `gload.log` file.

Transferring output files from ArcGIS to Spillman

To transfer the output files from ArcGIS into Spillman, the following information is needed:

- The path to the ArcGIS output directory on your PC. The output directory is the location where the `*.out` files are stored.
- The path to the UNIX location where the output files will be stored. The path will be `$FORCEDIR/util/geobase`, where `$FORCEDIR` is

replaced with your agency's equivalent value. This value is different for each agency.

For example, if `$FORCEDIR` is equal to `/sds/force`, then the path to the UNIX location would be `/sds/force/util/geobase`.

TIP

To find your agency's value for `$FORCEDIR`, enter `sh` at the Spillman command line to shell out to UNIX. At the `$` prompt line, enter `echo $FORCEDIR`. The software displays the `$FORCEDIR` value.

Before transferring the output files, access your ArcGIS output directory to verify that it contains a current version of the following output files:

Output files	
<code>apparam.out</code>	<code>gbsaka.out</code>
<code>gbstreet.out</code>	<code>gbzone.out</code>
<code>gbstname.out</code>	<code>tbzones.out</code>
If an address layer was loaded, look for <code>gbaddr.out</code> .	

To verify that the output files are current, open the file properties and view the date displayed in the **Modified** field.

After reviewing the output file directory, transfer the `*.out` files from the ArcGIS output directory to the `$FORCEDIR/util/geobase` directory.

NOTE

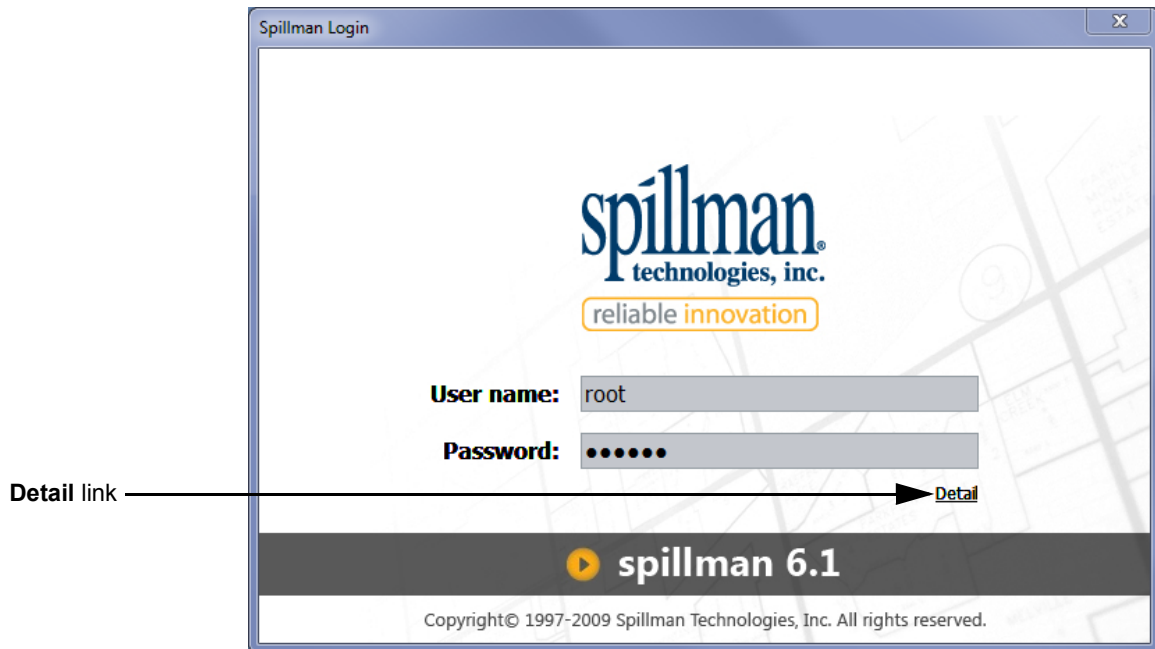
Spillman Technologies, Inc. is not responsible for any file transfer. Each agency is responsible for obtaining, implementing, and knowing how to use its own file transfer program.

Validating data and loading geobase files into the Geo database

The `gbload` program is designed to simplify the process of loading your ArcGIS data into Spillman by performing multiple tasks automatically. For information, see [“Understanding the gbload program” on page 379](#).

To run the `gbload` program:

1. Log on to Spillman as **root**, as shown in the following example.



2. Click the **Detail** link.

Details of the Spillman Login screen display.

3. Select the **Choose custom login** check box.
4. Click **Login**.
5. In the **Database** field, select **Geobase**.

If **Geobase** does not display as an option from the drop-down list, then the path to the Geo database has not been set. To set the path to the Geo database, see “[Providing access to the Geo database](#)” on [page 378](#).

6. Click **Login** to open the Spillman software.
7. At the Spillman command line, enter `sh` to shell out to UNIX.

The Spillman Terminal window opens.

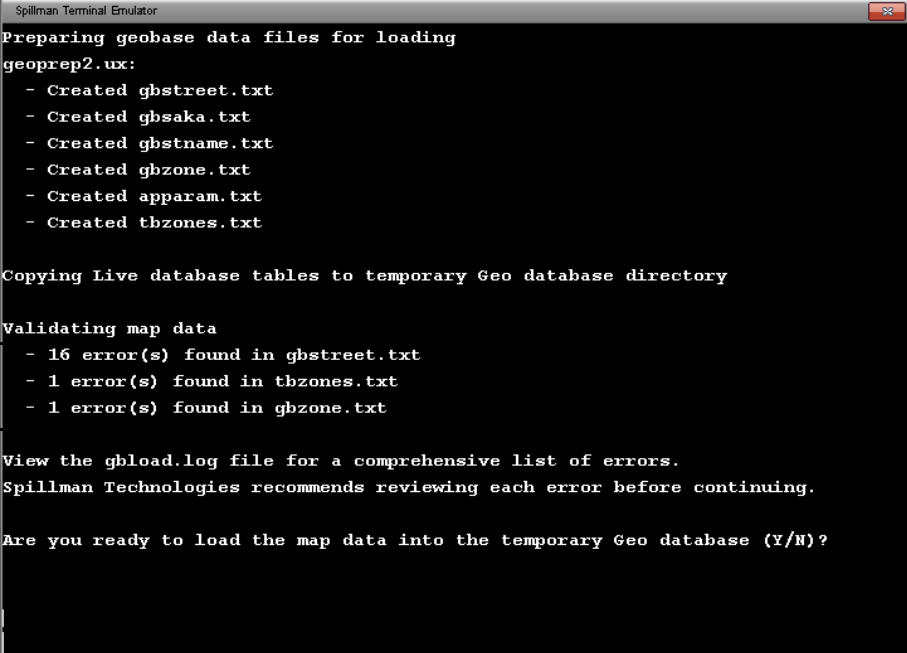
8. If the `$FORCEDIR/util/geobase` directory is not already opened, at the prompt line, enter `cd $FORCEDIR/util/geobase`.
9. At the prompt line, enter `gbload`.

The software renames each .out file listed on [page 229](#) with a .txt extension, and then validates the following data within those files:

- Cities in the gbstreet.txt are found in apcity.abbr
- Agencies in the tbzones.txt are found in apagency.abbr
- Each zone in gbzone has the following:
 - Odd and even zones are in tbzones
 - Agencies are in apagency
 - The dispatch type matches the agency dispatch type

If gblload finds validation errors, as shown in the following example, then the gblload.log file can be reviewed for detailed error messages. Errors can be fixed before data is loaded into the temporary Geo database. Be sure to use .txt files to test error messages—*not* .out files.

Validation
errors



```
Spillman Terminal Emulator
Preparing geobase data files for loading
geoprep2.ux:
- Created gbstreet.txt
- Created gbsaka.txt
- Created gbstname.txt
- Created gbzone.txt
- Created apparam.txt
- Created tbzones.txt

Copying Live database tables to temporary Geo database directory

Validating map data
- 16 error(s) found in gbstreet.txt
- 1 error(s) found in tbzones.txt
- 1 error(s) found in gbzone.txt

View the gblload.log file for a comprehensive list of errors.
Spillman Technologies recommends reviewing each error before continuing.

Are you ready to load the map data into the temporary Geo database (Y/N)?
```

NOTE

If an address layer was loaded, then Created gbaddr.txt also displays in the list of text files.

When the gblload program stops, the software prompts: Are you ready to load the map data into the temporary Geo database (Y/N) ?

10. Do one of the following:

- If errors are found, enter **N** to stop running gblload. Review the gblload.log file and fix existing errors in ArcGIS. For more information, see [“Viewing the gblload.log file and fixing validation errors” on page 233](#). Once errors are fixed, start the transfer process again.

CAUTION

If data is loaded into the Geo database without first fixing ArcGIS errors listed in the gblload.log file, inaccurate data may be loaded into your Live database. Fixing the ArcGIS errors listed in the gblload.log file *before* running gblload again is recommended.

- If errors are *not* found, or data is to be loaded into the Geo database without fixing existing errors, enter **Y**. If any value other than **Y** is entered, the software defaults to **N**.

The software finishes running gblload.

NOTE

If an address layer was loaded, and **Y** is entered at the gblload prompt, then the following message displays: Do you want to load the addresses (Y/N) ? If **Y** is entered, then the software loads addresses from the gbaddr.txt file into the Geo database, as shown in the following example.

```
Checking the text file...
Reading address records from gbaddr.txt...
One moment please...
[#####] 100%
Finished loading gbaddr.txt
    425 records added
    0 records updated
```


Viewing the gblload.log file and fixing validation errors

If an error message is received when running gblload, fix the problem and run gblload again. The following table lists errors that might occur while gblload is being run.

Possible gblload error message	Solution(s)
The MAPTRAIN environment variable is not set: Exiting	<ul style="list-style-type: none"> Set the MAPTRAIN environment variable. See “Setting MAPTRAIN to the Practice directory” on page 382. Set the MAPLIVE environment variable. See “Setting MAPLIVE to the Live directory” on page 383. or <ul style="list-style-type: none"> Call a Spillman Customer Support technician to set the MAPTRAIN and the MAPLIVE variable in the Spillman script.
The MAPLIVE environment variable is not set: Exiting	
This utility must be run as root.	Log on to Spillman as root , and start gblload again.
Error=2 The error message displays in the following format: Can't add record <i>record number</i> (err=2 table= <i>table_name.field</i> line= <i>line_number</i>) For example: Can't add record 32 (err=2 table=gblstreet.name line=32)	The table indicated in the error message contains duplicate records. Write down the line and the table containing duplicate records. Open the corresponding .txt file, such as gblstreet.txt, and search for the duplicate record. If a record is a true duplicate, meaning incorrect data was not entered, delete that record in ArcGIS, and then do the following: <ul style="list-style-type: none"> Prepare the new data for transfer Transfer the data Run gblload again.
Street information not in gblstreet and/or Updated record 'xxxxxx' These error messages display when gblload loads address points (gbladdr.out).	Locate the error line in the gbladdr.txt file. In that error line, note the street name, house number, and city code, and then compare the data to records in gblstreet to see if it is incorrect or whether that street segment is missing. Use .txt files to test error messages—not .out files. See “Fixing address point data errors” on page 237.

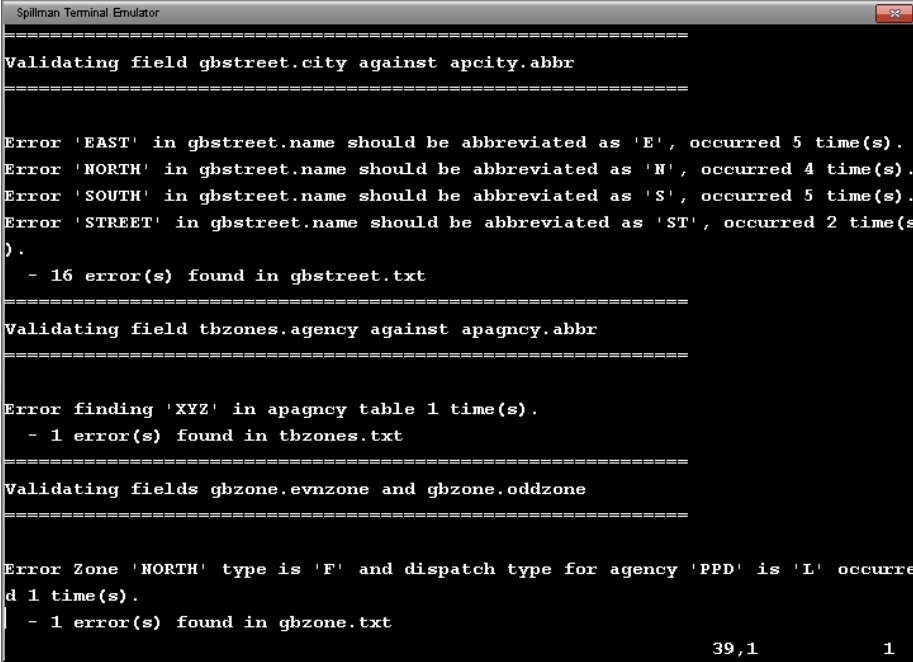
When gblload is run, the program creates a log file containing validation error messages. Fixing the ArcGIS data errors *before* loading data into the Geo database is recommended. If errors are not fixed, inaccurate data may be loaded into your Live database.

To fix gblload errors, do the following:

- Open the gblload.log file to view errors. See [“Viewing the gblload.log file”](#) on page 234.
- Access ArcGIS and fix the validation errors. See [“Fixing validation errors”](#) on page 234.
- Create new output files, and prepare the files before running gblload again.

Viewing the gblload.log file

From the Spillman Terminal window, use the vi editor or another UNIX command, such as **page** or **more**, to view the `gblload.log` file, as shown in the following example.



```

Spillman Terminal Emulator
=====
Validating field gbstreet.city against apcity.abbr
=====
Error 'EAST' in gbstreet.name should be abbreviated as 'E', occurred 5 time(s).
Error 'NORTH' in gbstreet.name should be abbreviated as 'N', occurred 4 time(s).
Error 'SOUTH' in gbstreet.name should be abbreviated as 'S', occurred 5 time(s).
Error 'STREET' in gbstreet.name should be abbreviated as 'ST', occurred 2 time(s).
)
- 16 error(s) found in gbstreet.txt
=====
Validating field tbzones.agency against apagency.abbr
=====
Error finding 'XYZ' in apagency table 1 time(s).
- 1 error(s) found in tbzones.txt
=====
Validating fields gbzone.evnzone and gbzone.oddzone
=====
Error Zone 'NORTH' type is 'F' and dispatch type for agency 'PPD' is 'L' occurred 1 time(s).
- 1 error(s) found in gbzone.txt
39,1      1

```

For information on using the vi editor, see “vi Instructions” in Appendix C of the *Spillman Applications Setup and Maintenance Manual*.

Fixing validation errors

The validation portion of `gblload` does the following:

- Checks the `gbstreet.txt` file for city code errors
- Checks the `gbstreet.txt` file for street abbreviation errors
- Checks the `tbzones.txt` file for agency code errors
- Checks the `gbzone.txt` file for zone code errors

- Checks the `gbaddr.txt` file for address point data errors

NOTE

The `gbload.log` file may contain errors that must be fixed in the Live database. Fix ArcGIS errors before loading the GIS data into the Geo database. However, wait until after data is loaded into your Live database to fix those errors that must be fixed in the Live database. If changes are made in your Live database before running `gbload -l`, data may be lost.

To fix validation errors, review the following sections:

- “Fixing city errors” on page 235
- “Fixing street abbreviation errors” on page 235
- “Fixing agency errors” on page 236
- “Fixing zone errors” on page 237
- “Fixing address point data errors” on page 237

Fixing city errors

The `gbload` program compares the city code from each street record in the `gbstreet.txt` file with city codes defined in the City Codes table (`apcity`) in your Live database. Each street record must contain a city code. If `gbload` cannot find a matching city code, it adds an error message to the `gbload.log` file. The `gbload` program reports each unique error only once.

A city error might look similar to the following:

```
Error finding 'ABC' in APCITY table 3 time(s).
```

If city errors exist in the `gbload.log` file, do one of the following:

- Check the values in the **Citycd** field of your ArcGIS geobase Attributes table to verify that the city code is not misspelled. If the city code is misspelled, correct the spelling.
- Wait until after all ArcGIS errors are fixed, and then test the geobase data and run `gbload -l`. Verify that the city code being used in ArcGIS has a corresponding city code in your Live database. If the city code from ArcGIS does not exist in your Live database, add it to the City Codes table (`apcity`).

Fixing street abbreviation errors

The `gbload` program compares the street name from each street record in the `gbstreet.txt` file with street abbreviations defined in the Street Part Abbreviations table (`gbabbr`) in your Live database. If a word in the street name is listed in the Street Part Abbreviations table as an excluded word, `gbload` adds an error message to the `gbload.log` file.

For example, the following Street Part Abbreviations table (`gbabbr`) record specifies that the preferred abbreviation for EAST is **E**, and that the software is to translate EAST to its preferred abbreviation. If this `gbabbr` record is in your Live database, and the `gbstreet.txt` file contains the word EAST, then `gbload` creates an error message in the `gbload.log` file.

If the abbreviation is not fixed, the software cannot find addresses containing the incorrect abbreviation.

An abbreviation error might look similar to the following:

Error 'EAST' in `gbstreet.name` should be abbreviated as 'E' occurred 5 time(s).

If abbreviation errors exist in the `gbload.log` file, do one of the following:

- In ArcGIS, replace all occurrences of the alternate abbreviation in the **Street** field of your geobase layer with the preferred abbreviation from the Street Part Abbreviations table (`gbabbr`) in Spillman.
- If both abbreviations are allowed, wait until all ArcGIS errors are fixed, and then test the geobase data and run `gbload -1`. Open the Street Part Abbreviations table (`gbabbr`) in your Spillman Live database and access the record for the problem abbreviation. Change the value in the **Translate to preferred form?** field to **N**.

NOTE

Increase the geobase searching speed in Spillman by using only the preferred form of the abbreviation in ArcGIS. If the record is modified in the Street Part Abbreviations table (`gbabbr`), the searching speed slows because the software must search for multiple forms of the abbreviation.

Fixing agency errors

The `gbload` program compares the agencies listed in the `tbzones.txt` file with agencies defined in the Agency Codes table (`apagency`) in your Live database. If `gbload` cannot find a matching agency code, it adds an error message to the `gbload.log` file.

An agency error may look similar to the following:

Error finding 'XYZ' in apagency table occurred 5 time(s).

If agency errors exist in the `gbload.log` file, do one of the following:

- Check your ArcGIS `tbzones` table to verify that the agency code is not misspelled. If the agency code is misspelled, correct the spelling.
- Wait until after all ArcGIS errors are fixed, and then test the geobase data and run `gbload -1`. Verify that each agency code being used in ArcGIS has a corresponding agency code in your Live database. If the agency code from ArcGIS does not exist in your Live database, add it to the Agency Codes table (`apagency`).

Fixing zone errors

The `gbload` program compares the zone type of the zone layer (Law, Fire, EMS, Misc) from ArcGIS with the dispatch agency type from the Agency Codes table (`apagency`) in your Live database. If the zone types do not match, `gbload` adds an error message to the `gbload.log` file.

A zone error may look similar to the following:

Error Zone 'NORTH' type is 'F' and dispatch type for agency 'SPD' is 'L'.

If zone errors exist in the `gbload.log` file, do the following:

- In ArcGIS, check the values for the appropriate zone layer in the **Evzone** and **Oddzone** fields. Verify that the matching zone exists in the Zone Codes table (`tbzones`) in your Live database.
- Wait until after all ArcGIS errors are fixed, and then test the geobase data and run `gbload -1`. Access the Zone Codes table (`tbzones`) in your Live database and verify that the agency listed in the **Agency** field is correct for the zone listed in the **Zone Code** field. Open the Agency Codes table (`apagency`) in the Live database and verify that the dispatch type listed in the **Dispatch Agency Type** field is the appropriate dispatch type for the agency.

Fixing address point data errors

The `gbload` program compares address points of the point address layer from ArcGIS with data in the Geobase Street Segments table (`gbstreet`). If the data does not match, or street segments are missing, then `gbload` adds an error message to the `gbload.log` file.

An address point data error may look similar to one of the following:

Street information not in `gbstreet`

Updated record 'xxxxxx'

If address point data errors exist in the `gbload.log` file, do the following:

- Locate the error line in the `gbaddr.txt` file. Use `.txt` files to test error messages—*not* `.out` files.
- In that error line, note the street name, house number, and city code, and then compare the data to records in `gbstreet` to see if is incorrect or whether that street segment is missing.
 - If the address point data is incorrect, then the information must be corrected in ArcMap, and the out file reproduced to load the correct data back into the Spillman database.
 - If the street segment is missing, then the address point information for that street must be added to the Street layer in ArcMap, and the collective street data updated.

If the data is correct, and the street segment is not missing, contact Spillman Customer Support for help.

Testing the geobase data

After loading the geobase data, test the data in the Geo database. It is critical to test the data before transferring it into the Live database.

NOTE

If testing reveals numerous problems with the GIS data fix the data in ArcGIS. After making the changes, create new output files, transfer the files to your UNIX server, and then run `gbload` again.

To test geobase data, complete the following tasks:

- Verify that the application parameters that affect the geobase are properly set. See [“Modifying the Application Parameters for the Geobase Module” on page 51](#).
- Verify intersections and regular, non-intersecting addresses. See [“Verifying intersections” on page 241](#), [“Fixing intersections” on page 243](#), and [“Verifying addresses” on page 239](#).
- Verify other geobase information:
 - Verify that the geobase information is correct in the Geobase Street Segments table (`gbstreet`).
 - In the Geobase Street Names table (`gbstname`), select the **List** option to view the street names in your geobase.
 - In the Alias Street Names table (`gbsaka`), select the **List** option to view the alias street names in your geobase.

- In the Zone Codes table (tbzones), select the **List** option to view all the zones in your geobase.
- In the Geobase Address Maintenance table (gbaddr), select the **List** option to view all the address records in your geobase.

Using the Address Information screen

The Address Information screen (addr) is used to verify addresses and intersections, and displays information on an address or intersection with the following fields:

- **Cross streets:** Displays the cross streets for the address.
- **Coordinates:** Displays the latitude and longitude coordinates of the address. If the Pin Mapping module is used, the address can be mapped.
- **Zones:** Displays all of the zones at this address.
- **Nearby Addresses:** Displays all gbaddr records that exist within the specified distance. Each address link can be clicked to open the selected address in a separate window.
- **Calls:** Displays all calls that have occurred at this address in descending order by date and time. Each call link can be clicked to open the call record in a separate window.
- **Aliases:** Displays the aliases for this address.
- **Alerts:** Displays the address alerts associated with this address.
- **Names:** Displays the Name records associated with this address. Each Names record link can be clicked to open the Name record in a separate window.
- **Premises:** Displays the Premise records at this address. Each premise link can be clicked to open the Premise record in a separate window.

Verifying addresses

To verify an address:

1. At the Spillman command line, enter **addr**.
The Address Information screen opens.
2. In the **Address** field, enter the address. For example, **300 N Broadway**.

3. Click **Submit**.

TIP

The address can immediately follow the **addr** command. For example, at the Spillman command line, **addr 300 N Broadway** can be entered.

The Geobase Address Selection screen opens, displaying all possible address candidates, as shown in the following example.

Geobase Address Selection

City	Addr: 300 n broadway	LZ	FZ	EZ	MZ
SFD	300 N BROADWAY ST	LSE	FS	ESE	
PIE	300 N ATLANTA AVE	WEST	FWEST	EWEST	
PIE	300 N 9TH ST	SOUTH	FSOUT	ESOUT	
PIE	300 N 14TH AVE	SOUTH	FSOUT	ESOUT	
PIE	300 N 13TH ST	SOUTH	FSOUT	ESOUT	
PIE	300 N 13TH AVE	SOUTH	FSOUT	ESOUT	
PIE	300 N 12TH ST	SOUTH	FSOUT	ESOUT	

Buttons: Alias & Soundex Search, Ok, Cancel

Each address listed contains the city code, street address, and x- and y-coordinates.

4. Select the correct address, and then click **OK**.

Information for the selected address populates in the Address Information screen, as shown in the following example.

Address Information

Address: 300 N BROADWAY ST, SFD Longitude: -87.6394
 Cross Streets: Intersection of: N & MAHOGANY Latitude: 34.819499

Address Record #: 17

	Dispatch Zone	Reporting Area	Response Zone	Street Zone
Law:	LSE	LSE		
Fire:	FS	FS		
EMS:	ESE	ES		
Misc:				

Buttons: Map, Update

Within: 50 Yards

13y E 3210 MAHOGANY AVE

Aliases (1)
BROADWAY REC CTR

Alerts (1)
DRUG Possible Drugs on Premises 10/24/2001 10/24/2002

Names (1)
Faulk, John Nathaniel INDIV W M 31 yrs

Premises (0)

Buttons: Close

5. Click **Close**.

Verifying intersections

To verify intersections:

1. At the Spillman command line, enter **addr**.

The Address Information screen opens.

Address Information

Address: Longitude:

Cross Streets: Latitude:

Address Record #:

Zones

	Dispatch Zone	Reporting Area	Response Zone	Street Zone
Law:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fire:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
EMS:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Misc:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Nearby Addresses (0)

Within: 50 Yards

Aliases (0)

Alerts (0)

Names (0)

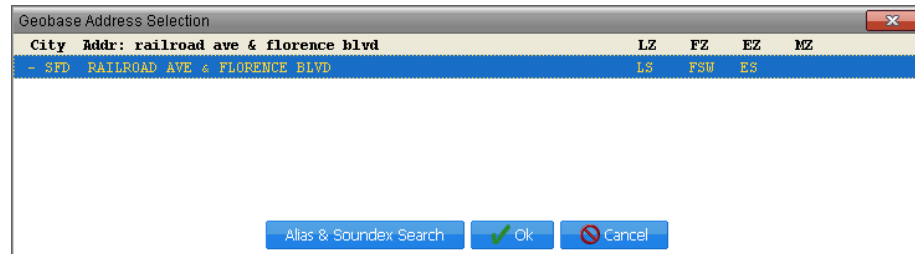
Premises (0)

Calls (0)

2. In the **Address** field, enter the names of the intersecting streets, separated by an ampersand (&). For example, **Railroad Ave & Florence Blvd.**
3. Click **Submit**.

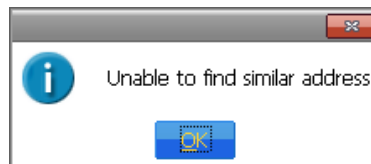
The following occurs:

- If the software recognizes the intersection name as entered, an exact match displays, as shown in the following example.



Do the following:

- Click **OK**.
- If the software cannot find an exact match for the intersection, or if multiple matches exist, the closest matches display. Do one of the following:
 - Select the correct address, and then click **OK**.
 - Click **Alias & Soundex Search** to broaden the search.
 - Click **Cancel** to quit the addr program.
- If the software cannot find an exact or possible match, the following message displays: Unable to find similar address.



If this message opens, the intersection must be fixed in the geobase. Click **OK**, and then fix the intersection. For more information, see [“Fixing intersections” on page 243](#).

Fixing intersections

The following table lists problems that can prevent the software from recognizing an intersection, and their solutions.

Problem	Solution
Your jurisdiction has self-intersecting streets, but <code>geosistr</code> is set to No .	Open the <code>apparam</code> table, and set <code>geosistr</code> to Yes . Exit and restart the Spillman software.
Rounded house numbers are causing the intersection data to be incorrect. The <code>georintr</code> parameter is set to Yes .	Open <code>apparam</code> table, and set <code>georintr</code> to No . Exit and restart the Spillman software.
The software does not recognize one of the intersecting street segments.	If the software does not verify one of the street segments, check the house numbers and the city for that street in <code>gbstreet</code> .
The software recognizes the intersecting street segments, but coordinates or house numbers for one of the segments are entered incorrectly.	<p>Check the <code>gbstreet</code> record of each intersecting street segment:</p> <ul style="list-style-type: none">• Do the beginning and ending x- and y-coordinates match the positions of the street segments on your map?• Are the coordinates for one segment close enough to the coordinates of the other segment that the software will consider them to intersect?• Are the beginning and ending house numbers correct? <p>Modify coordinates and house numbers as necessary.</p>

Using the Geobase Address Selection window

If using grid-based addressing, the software incorporates address prefixes into the address search process. To understand how the software determines which addresses to display in the Geobase Address Selection window for grid-based addresses, see [“Understanding the Geobase Address Selection window and grid-based addressing”](#) on page 384.

When an address search is performed in Spillman, the following factors determine which addresses are displayed in the Geobase Address Selection window:

- **Software setup.** The `gbmxstsl`, `gbminspl`, `gbminsnd`, `gbabbr`, and `soundex` application parameters affect which addresses are displayed

and how many. For more information, see [“Modifying the Application Parameters for the Geobase Module” on page 51.](#)

NOTE

Setting `gbmxstsl` determines the maximum number of addresses the software displays in the Geobase Address Selection window. However, if the software finds more *exact* address matches than `gbmxstsl` allows, then the software displays them for accuracy. Exact address matches are those whose house number and street name match the search address. An exact match does not necessarily mean the match is the address being searched for. Verify that the city also matches the city of the search address.

- **Search address.** The actual address the dispatcher enters in Spillman can affect which addresses are displayed. If the house number is included, then the entire street address (house number and street name) is used in the search. If the house number is not included, then only the street name is used in the search. Different addresses might display if the house number is entered, rather than if it were omitted. Also, if a house number is not entered, then the addresses displayed are not geocoded for a particular house number on the street.

Understanding how the software determines which addresses to display

When determining which addresses to display in the Geobase Address Selection window, the software performs the following phases:

- **Phase 1.** The Geobase Street Segments table (`gbstreet`) is searched for matching addresses. For more information, see [“Phase 1” on page 245.](#)
- **Phase 2.** The Alias Street Names table (`gbsaka`) is searched for matching addresses and addresses that match the spell-alike requirements, as set by `gbminspl`. For more information, see [“Phase 2” on page 245.](#)
- **Phase 3.** The Alias Street Names table (`gbsaka`) is searched for possible street name matches based on advanced spell-alike searching and soundex requirements, as set by `gbminsnd`. For more information, see [“Phase 3” on page 246.](#)

If the software cannot find matching addresses in Phase 1, it automatically moves to Phase 2. If matches still cannot be found in Phase 2, the software automatically moves to Phase 3.

If matching addresses are found in a preceding phase, candidates are displayed and the search stops without continuing to the next phase. To make the software continue to the next phase, even though matches are found, click the **Alias & Soundex Search** button if it is active on the Geobase Address Selection window, or click the Lookup button.

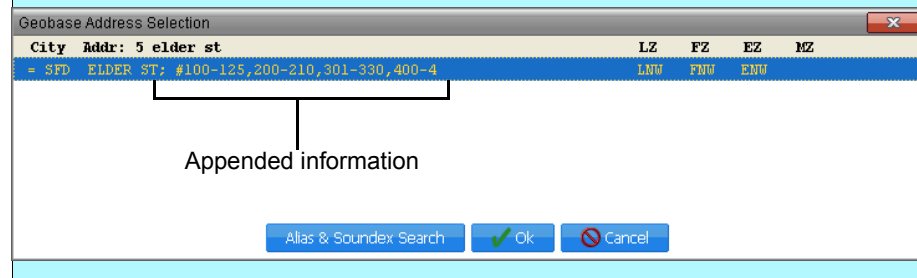
Phase 1

- Records in the Street Part Abbreviations table (gbabbr) are used to determine all possible variations of the abbreviations in the search address, and whether any abbreviations need to be translated to a different value. For example, a gbabbr record is set to translate all occurrences of the word AVENUE to the preferred abbreviation of AVE.
- Exact matches are search for in the Geobase Street Segments table (gbstreet). All variations of the address are used based on the abbreviations. For example, if gbabbr is set to not translate the abbreviation of AVENUE to the preferred form of AVE, and **107 10th Avenue** is searched on, then the software searches for both 107 10th Ave and 107 10th Avenue.

If one or more addresses are found, all exact matches are displayed in the Geobase Address Selection window, and the following message displays at the bottom of the Spillman command center: End of exact matches.

NOTE

If geonrang is set to **False**, and a house number outside the street's specified range is used, then the software appends a semicolon (;) and a list of valid ranges to the displayed address, as shown in the following example.



Phase 2

- In the Alias Street Names table (gbsaka), the following is searched for:
 - Alias names that exactly match by spelling

- Aliases whose first x characters match the street name, where the value x is the value set in `gbminspl`

If any candidates are found, they display in the Geobase Address Selection window, and the following message displays at the bottom of the Spillman command center: `End of exact aliases.`

NOTE

If a house number is entered as part of the address, the house number must be within the actual street's specified range. This rule also applies to Phase 3.

Phase 3

The following actions are performed alternately:

- One word at a time is removed from the street name, and the Alias Street Names table (`gbsaka`) is checked for the remaining street name to see whether there are any alias addresses whose first x characters match the street name. The value x is the value set in the `gbminspl`. This process is repeated until no words remain in the street name.

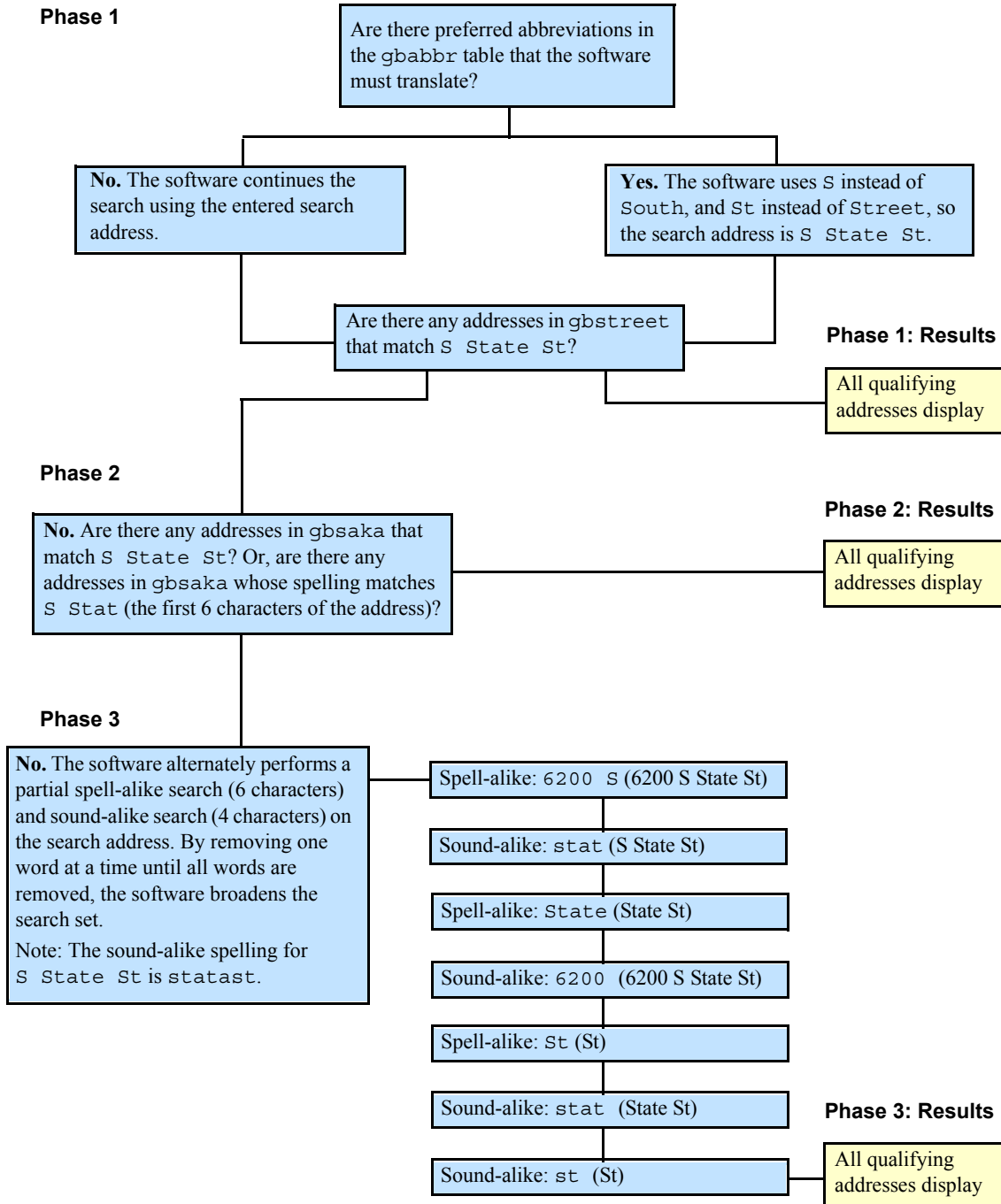
NOTE

If spell-alike matches are searched for, and the street name begins with a number, then the entire number is searched for regardless of the `gbminspl` value.

- The Alias Street Names table (`gbsaka`) is searched for addresses whose first x characters of the soundex value match the soundex value of the street name, where the value x is the value set in `gbminsnd`.

This search is started with the entire street name, and then checked to see whether the soundex requirements are met by any alias addresses. One word at a time is removed from the address, and the soundex check is repeated on the remaining street name until no words are left.

The following example shows how the software would search for 6200 South State Street, if the following conditions exist: the software is set to translate South and Street to the preferred abbreviations of S and St, soundex is set to 5 or blank, gbminspl is set to 6, and gbminaka is set to 4.



TIP

When verifying addresses, use the following tips:

- Talk to dispatchers to discover areas where address problems in the past have been experienced, and then check addresses from these areas.
- Check addresses that use street aliases.
- Check for missing addresses by using addresses from a source other than your map, such as the phone book or tax records.
- Verify that addresses on zone boundaries are in the correct zone.

Transferring data from the Geo database to the Live database

To transfer your ArcGIS data from the Geo database to the Live database, run `gbload -l`. When transferring data, `gbload -l` performs the following:

- Backs up the Live database.
- Moves the `.dat` and `.idx` files from the Geo database directory to the Live database directory.
- Replaces the Geobase Street Segments table (`gbstreet`), Geobase Street Names table (`gbstname`), Alias Street Names table (`gbsaka`), and the `gbzone` detail table in your Live database. If an address layer was loaded, then the Geobase Address Maintenance table (`gbaddr`) is also replaced.
- Replaces zone code records in the Zone Codes table (`tbzones`) in your Live database with corresponding zones records from ArcGIS. If there are zones in your Zone Codes table (`tbzones`) that do not have corresponding zones in ArcGIS, `gbload -l` leaves these records intact.
- Runs the `gbrekey` utility.
- Updates the `gbsfact`, `gbxfact`, `gbyfact`, and `geolat` application parameters if your agency uses ArcGIS.s

Running gbload -l

Once the `gbload.log` file contains only errors that need to be fixed in the Live database, the geobase data can be transferred from the Geo database to the Live database by running `gbload-l`.

To run `gbload-l`:

1. Make sure all users are logged off the Live database.
2. Log on to the Geo database in Spillman as **root**.

3. At the Spillman command line, enter **sh** to shell out to the UNIX operating system.

The Spillman Terminal window opens.

4. If the `$FORCEDIR/util/geobase` directory is not already opened, at the prompt line, enter **cd \$FORCEDIR/util/geobase**.

TIP

To prevent users from adding information to the Live database while changes are being made, do the following:

1. At the prompt line, enter **touch \$FORCEDIR/disable**.
A file called `disable` is created in the `$FORCEDIR` directory.
2. At the prompt line, enter **chmod 744 \$FORCEDIR/disable**.
The permissions on the `disable` file are changed to allow only `root` access, and users cannot log on to the Spillman software.

Performing these steps before running `gbload-l` is recommended.

3. Run `gbload-l` to import the new data into the Live database.

NOTE

The `gbload-l` program creates backups of the geobase files currently in the Live database and adds the file name extension `.old` to each file. It then copies the Geo database files into the Live database.

- If the geobase application parameter in your Live database is turned off when `gbload -l` is run, then after transferring the Geo database into the Live database, a prompt box opens, asking:
Geobase functionality is currently disabled in your Live database. Enable it now (Y/N)?

- If **Y** is entered, then the program sets the geobase parameter to **True**, as shown in the following example.

```

Spillman Terminal Emulator
Files Moved to
/opt/work/bcressal/maplive/gbzone.old
*****
/opt/work/bcressal/maplive/tbzones
Files Moved to
/opt/work/bcressal/maplive/tbzones.old
*****
/opt/work/bcressal/maplive/gbaddr
Copied to
/opt/work/bcressal/maplive/gbaddr.old
*****
/opt/work/bcressal/maplive/apparam
Copied to
/opt/work/bcressal/maplive/apparam.old
*****
Copying temporary Geo database into Live database...
Finished copying files into the Live database.
Live database ready for use.
One moment please...

Review the following log files:
- gbload.log
- gbrekey.log
[sunrise]/sds/dev/force/rel53/util/geobase>

```

- If **N** is entered, the geobase parameter can be turned on later at any time. For information on turning on the geobase application parameter, see [“Turning on the geobase” on page 381](#).
4. If the `disable` command was turned on (see [page 249](#)), it must be turned off. To turn off the `disable` command, at the prompt line, enter `rm $FORCEDIR/disable`.

Fixing errors in the Live database

To fix errors in the Live database:

1. Log on to the Live database.
2. Fix all errors listed in the `gbload.log` file that must be changed in the Live database.

CAUTION

If direction number errors exist in the `gbload.log` file, they must be fixed before running `gbload` again. Otherwise, direction numbers may be lost and there is no way to recover the original direction number errors after running `gbload` again.

3. Log on to the Geo database.
 4. Run `gbload`.
 5. Check the `gbload.log` file.
 - If errors do not exist, then users can be allowed back into the Spillman software.
 - If errors do exist, then do the following:
 - Log on to the Live database.
 - Fix all errors listed in `gbload.log` that must be changed in the Live database.
 - Log on to the Geo database, and then run `gbload` again.
- Repeat this step until all errors have been fixed in the Live database.

NOTE

If testing reveals numerous problems with data in the Live database, then you can return to ArcGIS and start over. From the `$FORCEDIR/util/geobase` directory, run `restliv.ux` to restore the previous data in the Live database.

CAUTION

If `gbload -l` is run more than once before running `restliv.ux`, then you cannot return to your original data.

Reference information

Reference the following information when transferring data:

- “Retaining modified x-, y-coordinates when running `gbrekey`” on page 368
- “Understanding `gbrekey`” on page 371
- “Providing access to the Geo database” on page 378
- “Understanding the `gbload` program” on page 379
- “Understanding the `gbload -l` program” on page 381
- “Turning on the geobase” on page 381
- “Setting `MAPTRAIN` to the Practice directory” on page 382
- “Setting `MAPLIVE` to the Live directory” on page 383
- “Removing the Geo database files” on page 383

For other useful references, see “Reference Information” on page 351.

chapter 5

Using the Geobase

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Adding Addresses

When entering an address in a Spillman table, the geobase performs a search and then opens the Geobase Address Selection window to display all qualifying address matches.

Use the following guidelines when entering addresses:

- Use a physical address whenever possible. Avoid using just a PO box number.
- Enter the parts of the address in the following order: house number, direction, street name, and street type. For example, **150 North Main Street**.
- If an apartment building is geobased, precede apartment numbers for that building with a pound sign. For example, **100 Doubletree Ln #1**. See [“Entering apartment or office addresses of a geobased building” on page 256](#).
- If an apartment building is not geobased, precede apartment numbers for that building with a semicolon (;). For example, **100 Doubletree Ln; 1**. See [“Entering apartment or office addresses of a non-geobased building” on page 256](#).
- Use a caret symbol (^) only if searching for a geobased apartment building in the Geobase Street Segments table (gbstreet). For example, to search for the building at 100 Doubletree Ln, enter **100 Doubletree Ln^**. However, usually only the SAA uses gbstreet.
- Do not use punctuation in addresses, except for the following: the semicolon (;), pound (#), and caret symbol (^).
- Know how your SAA has set the gbcodadr application parameter, which controls geobased and non-geobased addresses.

Information in this section is based on gbcodadr being set to blank.

Using abbreviations in addresses

The SAA sets up the geobase to allow entry of certain commonly used abbreviations, such as N for North, St for Street, and Hwy for Highway.

To view abbreviations:

1. At the Spillman command line, enter **gbabbr**.

The Street Part Abbreviations screen opens.

2. Click **List**.

If you do not have access to `gbabbr`, ask your SAA to give you privileges or to print the abbreviations list.

Always enter abbreviations without punctuation. The software translates abbreviated words into their expanded forms according to values set in the `gbabbr` table. For more information, see [“Modifying the Street Part Abbreviations Table in the Live Database”](#) on page 42.

Using street aliases in addresses

A street, or a part of a street, is often referred to by one or more alternate names. Street aliases are defined when your SAA sets up the geobase, enabling aliases to be entered in place of actual street names, as shown in the following table.

Actual street name	Street alias name(s)
Interstate 35 South	South Freeway
Interstate 20	Loop 820
Tower Mountain Pass	Tower Pass, Mountain Pass
North Capitol Drive	Capitol Drive
Lost Explorers Cave Road	Cave Road
400 North Street	University Drive, Stadium Drive
Seattle Slew’s Triple Crown Dr	Slew’s Triple Crown Dr, Triple Crown Dr
Atchison-Topeka-Santa Fe Drive	Atchison Drive, Topeka Drive, Santa Fe Drive

When a street alias is entered, the geobase automatically converts it to the actual street name. If an alias applies to only certain segments of a street, it cannot be used in addresses that are on other segments of that street.

Entering addresses with apartment or office numbers

The proper format for entering apartment or office numbers depends on if the apartment or office building has been geobased by your SAA. When setting up the geobase, the SAA can geobase any, some, or all multiple-occupancy buildings.

Entering apartment or office addresses of a geobased building

If the SAA geobased the building of the address being entered, then the apartment or office number is entered as part of the street address, as shown in the following examples:

- 100 Doubletree Ln #1
- 150 N Main St #10L
- 330 W Canterbury Dr #214.5

Note the following restrictions:

- The first character following the pound symbol (#) must be a number. For example, enter #A1 as **#1A** and #A24 as **#24A**. Up to five numeric characters are allowed to immediately follow the pound symbol (#). The apartment or office number is stored in the **House #** field of the gbaddrx record.
- As soon as a letter is encountered in the apartment or office number, the letter and everything following the letter is considered a suffix, and is stored in the **Suffix** field of the gbaddrx record. For example, if **#235Q2** were entered, then the software stores 235 as the house number and Q2 as the suffix. If the suffix has more than nine characters, the software truncates it to the first nine characters.
- Fractions are not allowed in geobased apartment numbers. Instead, use decimal points. For example, enter **214.5** in place of 214 1/2.

Entering apartment or office addresses of a non-geobased building

If the SAA did not geobase the building of the address being entered, then the apartment or office number is entered as a comment immediately following the street address. To enter an apartment or office number as a comment, enter a semicolon (;) between the address and the apartment or office number, as shown in the following examples:

- 100 Doubletree Ln; 1
- 150 North Main Street; L10
- 30 West Canterbury Drive; 214 1/2

Everything following the semicolon (;) is considered a text comment instead of data to be processed. Therefore, the restrictions on geobased apartment or office numbers do not apply to non-geobased apartment or office numbers.

- If a fraction is used in an apartment or office number, separate the number and the fraction with a space. For example, enter **214 1/2**.

Using intersection names as addresses

If an intersection is defined in the geobase, the intersection name can be used in place of a street address. For example, if an accident occurs at an intersection, the intersection name can be entered in the address field of the Law Incident (law) table. Separate the names of the intersecting streets with an ampersand (&). For example, **N Broadway St & Florence Blvd**.

Your SAA can shorten the names of major intersections that are confusing or unusually long. For example, North Country Club Drive & West Saint Charles Avenue might be shortened to Country Club & Saint Charles. If the SAA has given you privileges to modify the Geobase Address SAA Backdoor table (gbaddrx), then you can shorten intersection names yourself. For more information, see [“Shortening intersection names” on page 319](#).

Use the addr utility at the Spillman command line to determine whether a shortened name is allowed. For example, to see if Country Club & Saint Charles is allowed, enter **addr Country Club & Saint Charles** at the Spillman command line. If the shortened form is allowed, it displays in the Geobase Address Selection window.

Using common place names as addresses

If a common place is defined in the geobase, the common place name can be used in place of a street address. For example, if McDonald's is defined as a common place name, then **McDonalds** can be entered in place of its street address, and the geobase supplies the address. Notice that the apostrophe (') in McDonald's is omitted when the common place is defined. When entering common place names in place of street addresses, do not use punctuation.

Adding non-geobased addresses

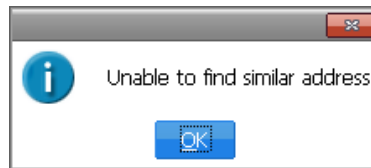
Depending on how your SAA sets the gbcodadr application parameter, non-geobased addresses may be allowed. Sometimes, an address that is not defined in the geobase must be entered, as demonstrated by the following situations:

- An incident involves a person from outside your agency's geobase area.
- An address exists in your agency's geobase area, but your SAA has not yet defined the address in the geobase. For example, a burglary occurs in a new subdivision before your SAA has time to add the appropriate street segment in the geobase.

- An address is entered in a form that the geobase does not recognize, such as **45 Washington Boulevard** instead of **45 George Washington Boulevard**, and therefore, the geobased form of the address is not known.

When a non-geobased address is entered, the software does one of the following:

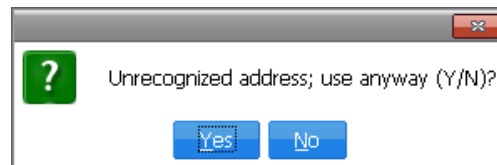
- If similar addresses are found in the geobase, they are displayed in the Geobase Address Selection window. Click **Cancel** if the entered address is not displayed.
- If a similar address cannot be found, a dialog box opens to display the following message: Unable to find similar address.



Click **OK**.

Depending on how your SAA sets the `gbcodadr` application parameter, the software does one of the following:

- If you are not allowed to geobase the address, but the address can be used as a non-geobased address, a dialog box opens to display the following message: Unrecognized access. Use anyway (Y/N) ?



- If **Yes** is clicked, then the software uses the address. However, the software does not add the address in the Geobase Address SAA Backdoor table (`gbaddrx`). Therefore, the software does not assign a unique, sequential Address ID to this address.
- If you are allowed to geobase the address, the software offers the following options.
 - Click **Use** to make the software use the address without adding it in the Geobase Address SAA Backdoor table (`gbaddrx`).
 - Click **Geocode** to make the software geocode the address and assign it a unique, sequential Address ID.

- Click **Re-enter** to enter a different search address.
- If non-geocoded addresses are not allowed, the Geobase Address Selection window displays only geobased addresses.

If the non-geobased address is on a newly constructed street, ask your SAA to add a street segment to include the new address, and tell them the name of the table where the record was added. After adding the necessary street segment, the SAA searches for the record entered and geobases the address.

Searching on Addresses

The Geobase module enables any of the following search criteria to be entered in a Spillman address field:

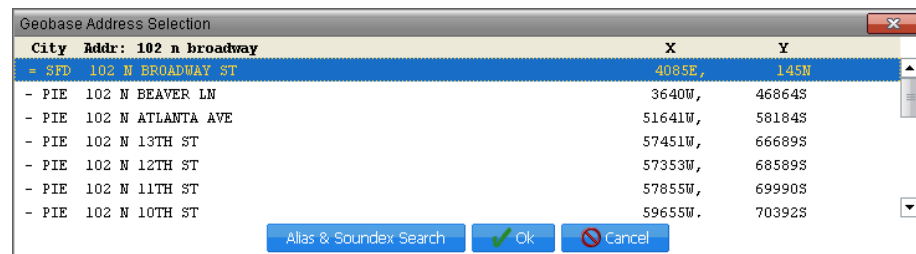
- A street address with the actual street name
- A street address with a valid street alias
- An apartment or office number
- An intersection name
- A common place name

Any defined abbreviation can be used. However, omit punctuation.

Searching on a street address

When searching on an address with the Geobase module, the city, state, and ZIP Code can be omitted. The software populates this information when the correct address is selected from the Geobase Address Selection window.

If the 'direction' of the street is known, such as North in 102 North Broadway, it can be included in the search, as shown in the following example



An equal sign (=) preceding a city code indicates the address has been used somewhere in the database, whereas a hyphen (-) indicates that the address has not been used.

If searching on an address, and prefixes exist for the street, then the software displays the prefixes after the street name.

CAUTION

If an address that either is a range record or does not include a house number is selected from the Geobase Address Selection window, then the software uses the zone of the last street segment on that street. This might cause your agency problems. For example, if the street is a highway containing many street segments and covering multiple zones, then the address location might be grossly misrepresented.

Using a street alias in the address

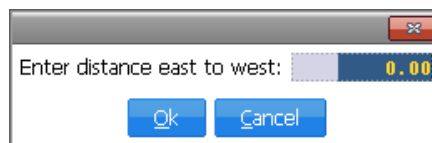
If your SAA defined street aliases for a street name, any of the aliases can be used in a search. For example, if the alias 100 School House Road exists for the street segment 100 West Suffolk Street, then 100 School House Road can be searched on. Be aware that a street alias might apply to only part of a street.

Using a Between search for areas around an address

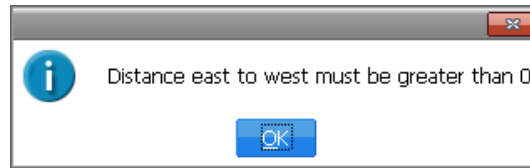
Use the Between search to search a rectangular area around an address, such as searching for all apartments in a geobased building. Using a Between search can be easier and faster than using a wild card search.

When using a Between search, the north-south and east-west distance can be specified in feet, miles, or geobase units, such as degrees latitude and longitude, depending on how your SAA set up the software.

If your SAA set the geoconvt application parameter to blank, and a Between search is performed on an address, then the following dialog box opens, prompting for geobase units values.



If the `geoconvt` application parameter value is set to **ft** (feet) or **mi** (miles) and **0** is entered, then the following error message displays: Distance east to west must be greater than 0,



Click **OK**, and then enter a different value.

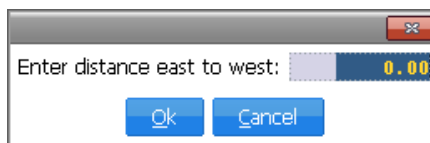
To use a Between search:

1. Select **Srch**.
2. In the **Address** field, click the **Type** button.
3. Select **3 - Between**.
4. Click **Accept**.
5. In **Address** field, enter the address. For example, **100 Doubletree Ln.**

The Geobase Address Selection window opens.

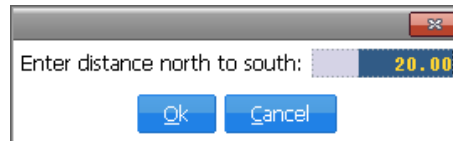
6. Select the correct address, and click **OK**.

The following dialog box opens, prompting for the east to west distance measurement.



7. Do one of the following:
 - If your agency's map is in latitude and longitude, enter the number of degrees the software will use to search from east to west of the entered address.
 - If your agency's map is not in latitude and longitude, enter the distance using the geobase unit of measurement your agency uses. If the unit of measurement used for your map is unknown, ask your SAA.
8. Click **OK**.

The following dialog box opens, prompting for the north to south distance measurement.



9. Do one of the following:
 - If your agency’s map is in latitude and longitude, enter the number of degrees the software will use to search from north to south of the entered address.
 - If your agency’s map is not in latitude and longitude, enter the distance using the geobase unit of measurement your agency uses.
10. Click **OK**.
11. Click the **Accept** to begin the search.
12. Click **List** to display a list of all addresses matching the search criteria.

Searching for a specific apartment or office

When searching for records pertaining to a specific apartment or office, use the following methods:

- “Searching for a specific apartment or office in a geobased building” on page 263
- “Searching for a specific apartment or office in a non-geobased building” on page 264
- “Searching for all apartments or offices in a non-geobased building” on page 264

Searching for a specific apartment or office in a geobased building

To search for a specific apartment or office in a geobased building:

1. Select **Srch**.
2. In the address field, enter the apartment or office number as part of the street address, as shown in the following examples:
 - 100 Doubletree Ln #1
 - 150 N Main St #10L

– 330 W Canterbury Dr #214.5

3. Click **Accept**.

Searching for a specific apartment or office in a non-geobased building

If the SAA did not geobase the building, the **Jres** (Join Restrict) option must be used to find records for a particular apartment or office in the building.

To search for a specific apartment or office in a non-geobased building:

1. Click **Srch**.
2. In the **Address** field, enter the building's street address, such as **100 Doubletree Ln**.
3. Click **Accept**.

The Geobase Address Selection window opens.

4. Select the correct address, and then click **OK**.
5. Highlight the **Jres** option, and then press the Spacebar.

All fields on the screen become numbered and a Search on field dialog box opens.

6. In the Search on field box, enter the number of the address field.
7. In the address field, enter the address again. However, include the specific apartment or office number as a comment followed by the asterisk (*) wild card.

For example, to find records on 100 Doubletree Ln, apartment 2, enter **100 Doubletree Ln; 2***.

8. Click the **Accept**.

The software finds records pertaining to the specified apartment or office. For example, if **100 Doubletree Ln; 2*** is entered, then records for apartment 2 display, as well as all other apartments at 100 Doubletree Ln that begin with the number 2, such as apartments 20, 21, 22, 200, 201, 202, and so forth.

Searching for all apartments or offices in a non-geobased building

To find records for all apartments or offices in a non-geobased building,:

1. Click **Srch**.
2. In the address field, enter the street address of the building. For example, to find records for all apartments at 100 Doubletree Ln, enter **100 Doubletree Ln**.

The software returns all occurrences at the specified address, not just those for the desired building.

3. Select the desired records.

Searching on an intersection name

If intersecting streets are geobased, they can be searched on with the intersection name. When entering intersection names, separate the names of the intersecting streets with an ampersand (&). For example, **Boardwalk & Ventnor Boulevard**.

Searching on a common place name

When setting up the geobase, your SAA defines the common place names in your jurisdiction, such as high-crime areas and commonly used locations.

When common place names are searched on in the address field, the Geobase Address Selection window opens to display all matching addresses for the common place, as shown in the following example for Pizza Hut.

Geobase Address Selection			
City	Addr: pizza hut	X	Y
- SFD	1608 FLORENCE BLVD; PIZZA HUT	9399W,	4775N
- SFD	859 COX CREEK PKWY; PIZZA HUT DELIVERY	29137W,	25590N
- PIE	PITTSBURG AVE	59141W,	51700S
- PIE	PINEHURST DR	28591W,	52750S
- PIE	PINEHURST BLVD	29341W,	52750S
- SFD	715 E TENNESSEE ST; PINEAPPLE WILLIE'S	24312W,	12922S
- SFD	S PINE ST	29562W,	23538S

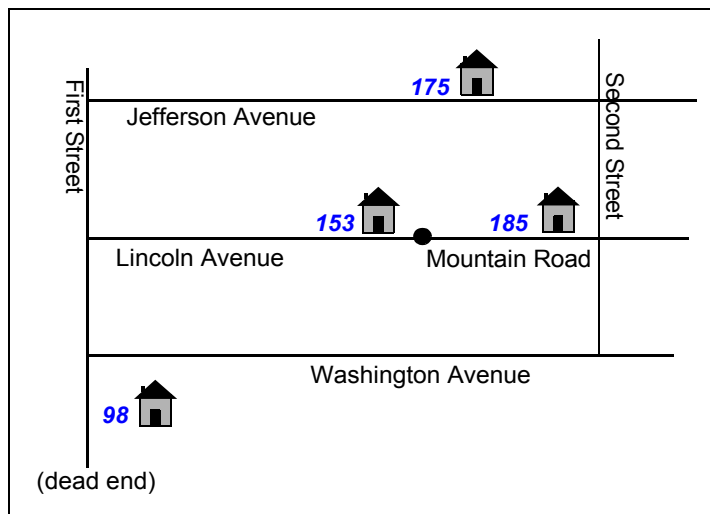
Alias & Soundex Search

Viewing Cross Streets in CAD

If the `geobase` and `gbcross` application parameters are set to **True**, and an address is entered in any of the following Computer-Aided Dispatch (CAD) screens, then the **Cross Streets** field, located immediately below the address field, displays the names of the cross streets nearest the address on both sides.

Computer-Aided Dispatch (CAD) screens
Add Call (ac)
Modify Call (mc)
Calls Taker's (calls or ca)
Display Call Information (ci)
Dispatch Units (du or dc)
Dispatch Wrecker (dw or dwc)
E911 Interface (e911)
Geobase Address Maintenance (gbaddr)
Geobase Address SAA Backdoor (gbaddrx)

The following map shows several addresses with cross streets.



Based on the map on [page 266](#), the following table lists the possible ways the cross street might be displayed in the **Cross Streets** field.

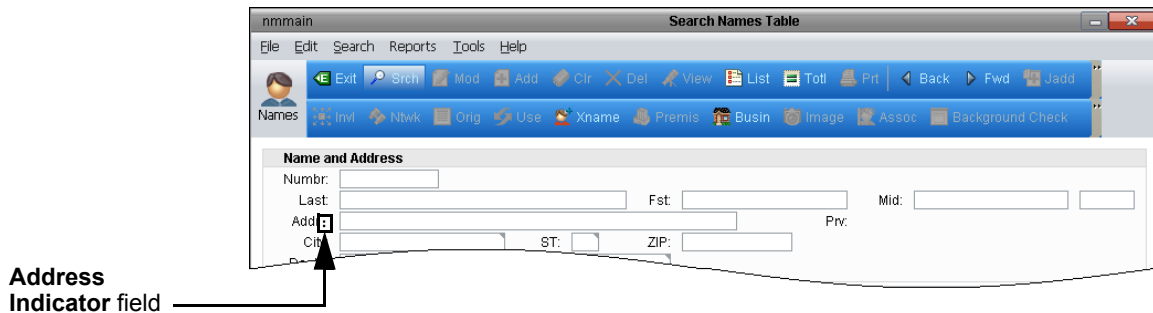
If this address is entered	The Cross Streets field displays
175 Jefferson Avenue	Between: First Street & Second Street
153 Lincoln Avenue	Between: First Street & Mountain Road
185 Mountain Road	Between: Lincoln Avenue & Second Street
200 First Street & Lincoln Avenue	Intersection of: First Street & Lincoln Avenue
98 First Street	Between: <Not found> & Washington Avenue

If a street changes names, the geobase considers the segment with the different name as a potential cross street. For example, Lincoln Avenue and Second Street are both considered a cross street of Mountain Road.

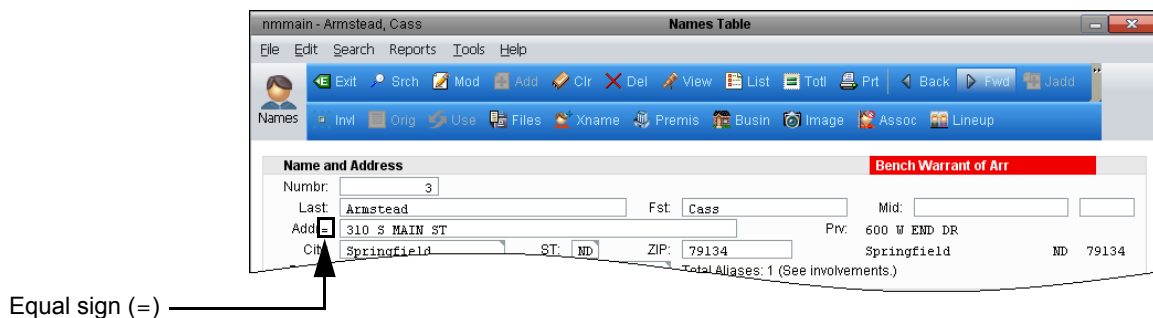
If cross streets are slow to display, contact your SAA to run the regindex utility.

Viewing the Address Indicator Field

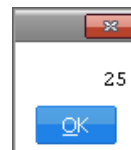
Throughout the Spillman software, the **Address Indicator** field displays between the address field description (**Addr**) and the address field, as shown in the following example.



If the address exists in the geobase, the **Address Indicator** field contains the unique Address ID the software assigned for the address. However, the field does not *display* the Address ID. Instead, an equal sign (=) displays, indicating that the field contains data and the address has been geobased, as shown in the following example.



To view the actual contents of the **Address Indicator** field, highlight **View** and press Spacebar. All fields on the screen become numbered and the Field to view dialog box opens. In the dialog box, enter the number of the **Address Indicator** field, and then click **OK**. A dialog box opens, displaying the contents of the field, as shown in the following example.



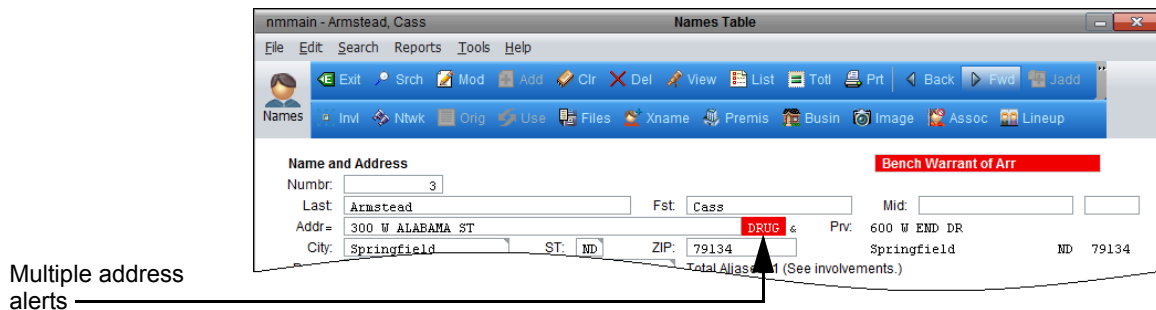
Your SAA might designate an Address ID as a character, such as **R**, to indicate that the address has been reviewed and should not be geobased. If the SAA does this, the **Address Indicator** field contains data and displays an equal sign. When the contents of the **Address Indicator** field are viewed, the character the SAA entered displays.

If the address does not exist in the geobase, and a 'reviewed' character has not been designated, then the **Address Indicator** field does not contain data, and a colon (:) displays instead of an equal sign.

Viewing Multiple Address Alerts

When multiple alerts are attached to an address, only the first alert displays next to the address on Spillman screens that display address alerts. An ampersand (&) follows the first alert to notify users that additional alerts exists for the address.

For example, the following Names record displays the address alert Drug &, indicating that the address 300 W Alabama St has a Drug alert and at least one other alert associated with it



To view the other alerts, highlight **View** and press Spacebar. All fields become numbered and the Field to view dialog box opens. In the dialog box, enter the number of the **Address Alert** field, and then click **OK**.

For information on viewing multiple address alerts in CAD, see the *Spillman Application Setup and Maintenance Manual*.

chapter 6

Maintaining the Geobase from Spillman

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Introduction

Maintain your geobase from Spillman only if either of the following is true:

- Only a few changes are being made, but the changes will not be made in your GIS software.
- A task being performed can only be done from Spillman. For example, attaching address alerts.

When maintaining the geobase from Spillman, use the following guidelines:

- Protect the geobase
 - To prevent anyone other than the assistant SAA from accessing certain Geobase tables, such as `gbabbr` and `gbaddrx`, limit privileges in the User Privileges table (`sypriv`). For more information on setting up security, see the *Spillman Security Setup and Maintenance Manual*.
- Keep a list of all changes made to the geobase
 - Record all changes made to the geobase. For example, new or changed abbreviations, street names, street aliases, and common places.
- Update your GIS software
 - Record all changes made to Spillman, and then make the corresponding changes in your GIS software.
- Keep the `geobase` application parameter set to **Yes** and make changes in the Live database.

Adding New Information

To add new information to the geobase in Spillman, do the following:

- “Adding abbreviations” on page 273
- “Adding agencies” on page 273
- “Adding common places” on page 274
- “Adding information on closed streets” on page 275
- “Adding new house numbers” on page 277
- “Adding new streets” on page 278
- “Adding new zones” on page 288
- “Adding or annexing cities from Spillman” on page 290
- “Adding or modifying ZIP Codes for a city” on page 292
- “Adding street aliases” on page 293
- “Adding alerts to an address” on page 294

Adding abbreviations

Abbreviations can be added at any time. However, before adding a new abbreviation in the `gbabbr` table, search the geobase to make sure no record already exists for that abbreviation. Also, remember to add a record for each alternative abbreviation of a preferred abbreviation.

Adding agencies

If your communication center will be handling calls for a new agency, update the following tables:

- “Updating the `apagency` table” on page 273
- “Updating the `tbzones` table” on page 274

Updating the `apagency` table

To update the Agency Codes table (`apagency`):

1. At the Spillman command line, enter **`apagency`**.
The Agency Codes screen opens.
2. Complete the following fields:

- **Agency Code:** Enter a unique code of up to four characters to represent the new agency.
 - **Agency Description:** Enter a brief description of the agency.
 - **Dispatch Agency Type:** Enter a one-character code for the type of dispatch agency. For example, law, fire, EMS, or miscellaneous.
 - Complete other fields as necessary.
3. Click **Accept**.

Updating the *tbzones* table

To update the Zone Codes table (*tbzones*):

1. At the Spillman command line, enter **tbzones**.
The Zone Codes screen opens.
2. Click **Add**.
3. Complete the following fields:
 - **Zone Code:** Enter the abbreviated zone code.
 - **Description:** Enter a description for the zone.
 - **Agency:** Enter the code of the agency, or click the Lookup button to select it from a list.
 - **X Coordinate of Center of Zone:** Enter the x-coordinate of the center of the zone.
 - **Y Coordinate of Center of Zone:** Enter the y-coordinate of the center of the zone.
4. Click **Accept**.
5. Repeat steps 2–4 to create a record for every zone the new agency is responsible for.

Adding common places

To add a common place:

1. At the Spillman command line, enter **gbsaka**.
The Alias Street Names screen opens.
2. Click **Add**.
3. Complete the following fields:

- **Street Name:** Enter the street name where the common place is located, or click the Lookup button to select it from a list.

Once the street name is entered, the **Segments** area displays information on all matching street segments for that street, as shown in the following example.

Segments area —

		Begin			End		
Cty	Side	Number	X Coord	Y Coord	Number	X Coord	Y Coord
SFD	B	390	-26112	-25689	397	-24112	-23288
SFD	B	398	-24112	-23288	401	-22312	-21589

- **Street Alias:** Enter the name of the common place.
- **City:** Enter the code for the city where the street is located, or click the Lookup button to select it from a list. The city code entered must be listed in the Lookup list.
- **Start House Number and Final House Number:** Enter the starting and ending house number of the common place. If an actual address is being entered, both house numbers will be the same.

House numbers must fall within one of the ranges listed in the **Segments** area. For example, for Canal St, the house numbers must fall in the range 390–397 or the range 398–401.

4. Click the **Accept**.

Adding information on closed streets

When a road is closed, or highway construction causes a detour, add the information to the street record using the Geobase Directions table (gbdirect):

- “Adding information on a single closed street segment” on page 276
- “Adding information on multiple closed street segments” on page 276

Adding information on a single closed street segment

To add information on a closed street segment:

1. At the Spillman command line, enter **gbstreet**.
The Geobase Street Segments screen opens.
2. Search for the record whose street segment is closed.
3. With the desired record open, highlight the **Mod** button, and then press Spacebar.
All fields on the screen become numbered and the Modify field dialog box opens.
4. In the dialog box, enter the number of the **Directions** field, and then click **OK**.
5. In the **Directions** field, click the Lookup button.
The Geobase Street Segments screen (gbdirect) opens.
6. Click **Add** to create a new directions record.
The software automatically assigns the record a Directions Number in the **Directions Number** field.
7. In the **Directions** field, enter the information about the street closing.
8. When finished, click **Accept**.
9. Click **Use**.

The software returns to the gbstreet table and populates the **Directions** field with the Directions Number, indicating that the information is linked to the appropriate gbstreet record.

Adding information on multiple closed street segments

To add information on multiple closed street segments:

1. At the Spillman command line, enter **gbdirect**.
The Geobase Directions Table screen (gbdirect) opens.
2. Click **Add**.
The software automatically assigns a Directions Number in the **Directions Number** field.
3. In the **Directions** field, enter information about the street closing.

4. Click **Accept**.
5. At the Spillman command line, enter **gbstreet**.
The Geobase Street Segments screen opens.
6. In the **Street Name** field, search for one of the closed street segments, or click the Lookup button and select it from the list.
7. Click **Accept**.
8. Highlight the **Mod** button, and then press Spacebar.
All fields on the screen become numbered and the Modify field dialog box opens.
9. In the dialog box, enter the number of the **Directions** field, and then click **OK**.
10. In the **Directions** field, enter the Directions Number assigned by the software.
11. Repeat steps 6–10 for each closed street segment the directions apply to.

For example, if a northern section of a street named North Williams Boulevard is under construction, and traffic on this street must detour, then directions for this detour must be entered and linked with the **gbstreet** record for the street. Direction information might included the following: Use alternate route: Detour east on Lake View Drive, north on Reservoir Road, and south on North Williams.

If the whole street is affected, select every street segment record in **gbstreet** for that street and enter the directions. The Directions Number is the same for all records. When the street re-opens, the directions record can be deleted in **gbdirect** and the Directions Number deleted in **gbstreet**.

Adding new house numbers

If an existing street segment cannot accommodate a new house number, then do one of the following:

- Modify the house numbers (and probably the x-, y-coordinates) of an existing street segment. See [“Modifying house numbers of a gbstreet record” on page 278](#)
- Create a new street segment. See [“Adding new streets” on page 278](#).

Modifying house numbers of a *gbstreet* record

To modify the house numbers of a *gbstreet* record:

1. At the Spillman command line, enter **gbstreet**.
The Geobase Street Segments screen opens.
2. Search for the desired record.
3. In the desired record, click the **Mod** button and make the necessary changes to the house numbers.
4. Click **Accept**.
5. Run *gbrekey* and resolve any errors found. For more information, see [“Error messages from *gbrekey*” on page 375](#).

Adding new streets

To add a new street from Spillman:

1. At the Spillman command line, enter **gbstreet**.
The Geobase Street Segments screen opens to a blank record.
2. Click **Add**.
The software assigns the record a Segment ID number.
3. Complete the appropriate fields. For more information, see [“Completing the *gbstreet* fields” on page 279](#).
4. Click **Accept**.

The first time a record for a new street name is accepted, a dialog box opens, displaying the following message: Trivial alias for street “*complete street name*” added.

For example, if a street segment is added for a street called St Francis Allen RD, then the following message displays: Trivial alias for street “St Francis Allen RD” added.



5. Click **OK**.

The software asks whether to add certain street aliases for the new street name.

6. For each street alias, do one of the following:
 - Click **Yes** to add the alias.
 - Click **No** to not add the alias.
 - Click **Quit** to signal the software to stop prompting for aliases for the current street record.
7. Click **Add** to add the next segment record.
8. Repeat steps 2–7 until a record has been created in `gbstreet` for every street segment on the street.

TIP

Records for subsequent segments of the same street will require much of the same information as the first segment record, such as street name, city code, origin code, street side, and so forth. Rather than re-entering the information that does not change, use the ADDSPACE feature to quickly add street segments with similar information. For more information, see [“Adding similar segment records” on page 287](#).

Completing the `gbstreet` fields

To complete each field in a `gbstreet` record:

1. At the Spillman command line, enter `gbstreet`.
The Geobase Street Segments screen opens to a blank record.
2. Click **Add**, if adding a new record. Otherwise, search for the record and click **Mod** to modify it.
3. In the **Street Segment** area, complete the following fields:
 - **Segment ID**: The software automatically assigns a Segment ID to the new `gbstreet` record.
 - **Street Name**: Enter the full street name exactly as it should appear in the software. Up to 30 alphanumeric characters are allowed.

When entering the street name, use the following guidelines:

- Include the direction and street type, if applicable. For example, enter **West Canterbury Drive**, and not just **Canterbury**.
- Follow your agency’s abbreviation standards.
- *Do not use punctuation.* Punctuation is not allowed as part of a street name, except for the pound sign (#), ampersand (&), colon (:), or period (.).

If a street name includes alternate abbreviations that are not forced to their preferred abbreviations, then the software prompts a series of questions to narrow the name to the desired form.

For example, if the street name **N E St** is entered, and the terms North, East, and Street are preferred but not forced, then several forms of the street name are possible. The following table describes how to answer the prompts to use either North East Street or N East ST.

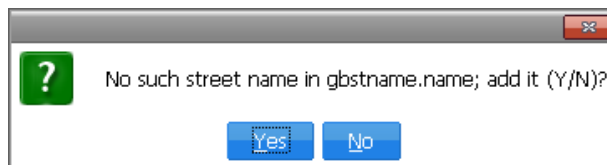
Prompt question	To use North East Street, click	To use N East ST, click
"North" is preferred over "N"; use it? (Y/N)	Y	N
"East" is preferred over "E"; use it? (Y/N)	Y	Y
"Street" is preferred over "ST"; use it? (Y/N)	Y	N

After responding to the last prompt, the final form of the street name displays in the **Street Name** field.

NOTE

If **Cancel** is clicked for any of the prompts, then the software ignores all responses given and uses the street name originally entered.

The first time a street name is entered, a prompt box opens, asking the following: No such street name in gbstname.name; add it (Y/N)?



Click **Yes**, if the spelling of the street is correct. If a disallowed abbreviation (according to the gbabbr table) was used, then the software changes the street name to the preferred abbreviation.

A dialog box opens, stating that the new street name is added.



Click **OK**.

If an incorrect street name is added by mistake, delete it from the **Street Name** field and enter the correct name. For example, if **Main Street** is entered when the actual street name is North Main Street, delete **Main Street** and enter the correct name.

NOTE

When entering a street name in your GIS software, the exact name entered in `gbstreet` must be used. If different abbreviations are used in your GIS software, then the software interprets the street as a different street when your data is transferred from your GIS software to Spillman. For more information, refer to “Modifying abbreviations” on page 307.

- **Akas**: All aliases display for the street segment. This is a display-only field, and the cursor skips this field.
4. In **Details** area, complete the following fields:
- **Prefix**: Enter the address prefix if your agency uses grid-based addressing. For example, if the address is E415N225 Sycamore Avenue, then enter **E415N**.
 - **City Code**: Enter the code of the city where the street segment is located, or click the Lookup button and select it from the displayed list. Up to three alphanumeric characters are allowed. Use the code specified in the `apcity` table.
 - **Even Zip**: Enter the ZIP Code of the city where the even side of the street segment is located.
 - **Odd Zip**: Enter the ZIP Code of the city where the odd side of the street segment is located.
 - **Origin Code**: Enter the street’s origin code, or click the Lookup button and select it from the displayed list. Up to three alphanumeric characters are allowed. Use the code specified in the `gborigin` table.

The software enters the complete central origin point of the city.

- **Street Side:** Enter one of the following codes, or click the Lookup button and select it from the displayed list, to indicate what information is included for the street segment:
 - **B:** Include information for both sides of the street. Option **B** is usually entered in this field
 - **O:** Include information for only the odd side of the street.
 - **E:** Include information for only the even side of the street.
- **Directions:** This field references the Geobase Directions table (`gbdirect`), where directions for a hard-to-find street segment or relevant notes about the street segment are entered.

Do one of the following:

- Click the Lookup button to go to the `gbdirect` table to add directions or notes for the street segment. For more information, see [“Adding information about a street segment” on page 300](#)
- Press Enter to skip this field and *not* enter directions or notes, or if it is preferred to enter them after adding all `gbstreet` records.
- **Location:** Enter additional location information, up to 20 characters, to help units find an address. When this address is entered in an **Address** field (**Addr**) in Spillman, the software displays information from the **Location** field after the address, placing a semicolon (;) between the address and the information.

For example, if the street name `Britt Ct` has a street segment as part of the subdivision `Creekside`, then **Creekside Subdiv** might be entered in the **Location** field as extra information on the location.

If the street segment for `Britt Ct` has house numbers ranging from 210 through 221, then when **212 Britt Ct** is entered in the address field of a CAD screen, the software appends the

information from the **Location** field, as shown in the following example.

cdcall - call# 4 - Animal Noise 212 BRITT CT; Creekside Subdiv **Add A New Call**

File Edit Search Tools Help

✓ Accept ✗ Cancel ↺ Previous

Add A New Call

Call: 4 Nature: Animal Noise Type: 1

Address= 212 BRITT CT; Creekside Subdiv

Between: <not found> & BRITT ST

Zones 1 : LNW : : Determ:

Appended information from the **Location** field

TIP

Although up to 20 characters can be entered in the **Location** field, keep the information brief. **Location** field information is appended after common place names, and the software truncates any data that does not fit in the **Address (Addr)** field.

5. In the **Segment** area, complete the following fields:

- **Starts at: X Coord:** Enter the x-coordinate, up to seven numeric characters, of the segment's starting point. If using latitude and longitude, enter the longitude.

When entering segment informations, use the following guidelines:

- Unless the road physically breaks, or the segment record is for a split street, the beginning x-, y-coordinates for a street segment usually are the same as the ending x-, y-coordinates for the previous segment of the same street.
- Be careful when entering the x- and y-coordinates. If the same value is entered for the Starting and Ending x- and y-coordinates, then the software prompts to swap the ending points when the record is added or modified.

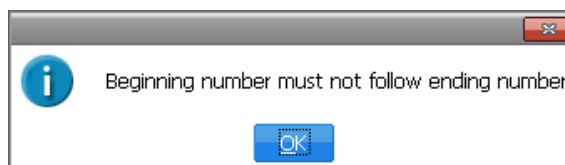
The following table shows an example of an *incorrect* entry in `gbstreet`.

Segment field	X Coord	Y Coord	Number
Starts at	50	100	50
Ends at	50	100	50

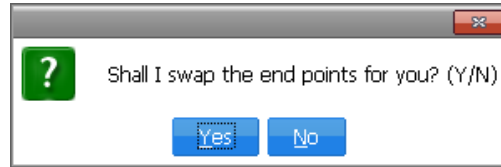
- **Starts at: Y coord:** Enter the y-coordinate, up to seven numeric characters, of the segment's starting point. If using latitude and longitude, enter the latitude.
- **Starts at: Number:** Enter the beginning (lowest) house number of the street segment, up to five numeric characters.

When entering house numbers, use the following guidelines:

- The beginning and ending house numbers of each street segment must be different from the beginning and ending house numbers of all other segments of that street. The only exception is that like-named streets in *different cities* can have the same house numbers because the city code enables the software to distinguish the streets.
- Do not enter zero (0) as a house number in `gbstreet`, except *only* in street alias records.
- If the record defines only one side of the street, make sure the beginning and ending house numbers are appropriate for that side of the street. For example, if **E** is entered in the **Street Side** field (to define only the even side of the street), then the beginning and ending house numbers must be even numbers. If the record defines both sides of the street, and option **B** is entered in the **Street Side** field, then this rule can be ignored.
- If the beginning house number entered is greater than the ending house number specified, then the following warning message opens when the segment record is added: Beginning number must not follow ending number.



Click **OK**. A dialog box opens, prompting the following: Shall I swap the end points for you? (Y/N)



Do one of the following:

- Click **No** to move the cursor to the beginning house number to manually correct the numbers. Do this only if the house numbers were associated with the wrong points.
- Click **Yes** to have the software swap the house numbers by swapping the end coordinates.

NOTE

It does not matter that after being swapped the ending coordinates are smaller than the beginning coordinates. It is only important that the ending house number be higher than the beginning house number.

- For the beginning and ending house numbers, actual numbers or potential house numbers for the segment can be entered.

TIP

Entering the potential house numbers for each street segment helps the geobase easily accommodate new construction without being modified.

- The beginning house number of a segment should be at least one value greater than the ending house number of the previous segment of the same street.
- **Abs X** and **Abs Y**: These are display-only fields that display the absolute coordinates of the beginning of the segment. The cursor skips these fields.
- **Ends at: X Coord**: Enter the x-coordinate, up to seven numeric characters, of the segment's ending point. If using latitude and longitude, enter the longitude.
- **Ends at: Y Coord**: Enter the y-coordinate (up to seven numeric characters) of the segment's ending point. If you are using latitude and longitude, enter the latitude.

- **Ends at: Number:** Enter the ending (highest) house number of the street segment. The number can have up to five numeric characters.
 - **Abs X and Abs Y:** These are display-only fields that display the absolute coordinates of the beginning of the segment. The cursor skips these fields.
6. In the **Zones** area, street segments can be linked to the appropriate dispatch zones, reporting areas, and response plan zones (if using response plans with CAD) using Street Zones Detail window (gbzone) of the **Layer** field.

To link a street to the appropriate zone, zones must first be drawn and defined in the Zone Codes table (tbzones). Instead of clicking the **Detail** button of the **Layer** field to enter information, click **Accept** to save the street segment record as is. The Street Zones Detail window will be used later, as described in [“Linking street segments to the zone” on page 288](#)

The gbstreet record will look similar to the following example.

The screenshot shows the 'Geobase Street Segments' window. The 'Street Segment' section contains the following information:

- Segment ID: 1
- Street Name: 10TH AVE
- Akas: 10TH AVE

The 'Details' section contains the following information:

- Prefix:
- City Code: PIE (Pierre)
- Origin Code:
- Street Side: B
- Directions:
- Location:
- Even ZIP:
- Odd ZIP:

The 'Segment' table shows the following data:

Segment	X Coord	Y Coord	Number	Abs X	Abs Y
Starts at:	-38841	-55400	200	-38841	-55400
Ends at:	-37641	-54500	299	-37641	-54500

The 'Zones' table shows the following data:

Layer	Odd	Even	Layer	Odd	Even	Layer	Odd	Even
1Z	CENT	CENT	LA	CENT	CENT	FZ	FCENT	FCENT
FA	FCENT	FCENT	EZ	ECENT	ECENT	EA	ECENT	ECENT

The status bar at the bottom indicates 'User: train2' and 'Go forward in current settable'.

The first time a record for a new street name is accepted, a dialog box opens, displaying the following message: Trivial alias for street "complete street name" added

For example, if a street segment is added for a street called St Francis Allen RD, then the following message displays:

Trivial alias for street "St Francis Allen RD" added.



7. Click **OK**.

Adding similar segment records

Use the Spillman ADDSPACE feature to quickly add records for consecutive street segments.

To add similar segment records:

1. Add the first segment record for the street, specifying the segment's beginning and ending x- and y-coordinates, beginning and ending house numbers, and all other required information. For more information, see ["Adding new streets" on page 278](#) and ["Completing the gbstreet fields" on page 279](#).

2. After clicking **Accept** to save the record, highlight **Add**, and then press Spacebar.

All the fields on the screen become numbered and the Change field dialog box opens.

3. In the Change field dialog box, enter the number of the first field entry to change.
4. In the first field specified, enter the changed information.

For example, if adding a segment that directly follows the previous street segment, do the following:

- Make the starting x-coordinate for this record the same as the ending x-coordinate of the previous record.
- Make the starting y-coordinate for this record the same as the ending y-coordinate for the previous record.
- Make the beginning house number for this record one value greater than the ending house number of the previous segment record.
- Enter the ending x- and y-coordinates and ending house number and range

5. Click **Accept**.

The software adds the current record while retaining the previous record.

6. Repeat steps 2–5 for any other similar records.

Adding new zones

To add a zone from Spillman, add the zone and then link the appropriate street segments to the zone:

- “Adding the zone” on page 288
- “Linking street segments to the zone” on page 288
- “Adding a zone or reporting area that splits a street” on page 290

Adding the zone

To add the zone:

1. At the Spillman command line, enter **tbzones**.
The Zone Codes screen opens to a blank record.
2. Click **Add**.
3. Enter information for the zone in the appropriate fields, as shown in the following example of a fire dispatch zone.

Zone Code:

Description:

Agency: Pierre Fire Department

X Coordinate of Center of Zone:

Y Coordinate of Center of Zone:

User: train2 | Add a new record to this table | OVR

4. Click **Accept**.

Linking street segments to the zone

Link each street segment in the zone to the zone by entering the zone code in the Street Zone Detail window (gbzone) of each segment's gbstreet record.

To link a street segment to the zone:

1. At the Spillman command line, enter **gbstreet**.
The Geobase Street Segments screen opens.
2. Click **Fwd** to display the first street segment record in the table.
3. Highlight the **Mod** button, and then press Spacebar.
All fields on the screen become numbered and the Modify field box opens.
4. In the Modify field dialog box, enter the number of the **Zones** field.
5. In the **Zones** field, click the **Detail** button.
The Street Zone Detail window opens.
6. Click **Add**.
The software automatically populates the **Seq** field with the sequence number that is used with the street segment ID.
7. In the **Layer** field, enter the two-character layer code, or click the Lookup button to select it from the displayed list.
8. In the **Odd Zone** field, enter the code of the zone containing the odd side of the street segment, or click the Lookup button to select it from the displayed list. Up to five alphanumeric characters are allowed. Use the zone code defined in the `tbzones` table.

CAUTION

The zone code must be appropriate for the layer code. For example, if a layer code is entered for *law*, a dispatch zone code for *fire* cannot be entered. Otherwise, a message similar to the following displays: *The zone's dispatch type must be the same as the layer type. Click OK, and then enter a different zone code.*

9. In the **Even Zone** field, enter the code of the zone containing the even side of the street segment, or click the Lookup button to select it from the displayed list. Up to five alphanumeric characters are allowed. Use the zone code defined in the `tbzones` table.

NOTE

Unless two zones split a street down the middle, the zone for the odd and even sides of the street should be the same.

10. Click **Accept**.
11. Repeat steps 6–10 to add a `gbzone` record for every zone that contains the street segment.

12. Click **Exit** to close the detail window.

The following example shows the gbzone record for Brannon Ct with the following field elements:

- Three dispatch zones: law (LZ), EMS (EZ), and (FZ)
- A reporting area for law (LA)
- A reporting area for fire (FA)
- Each zone is responsible for both the odd and even sides of the street.

The screenshot shows the 'gbstreet' application window with the title 'Geobase Street Segments'. The main window displays 'Modify the current record' for Segment ID 607, Street Name BRANNON CT, and Akas: BRANNON CT. A 'gbzone' detail window is open, showing a table with the following data:

Seq	Layer	Odd Zone	Even Zone
1	LZ	LC	LC
2	LA	LC	LC
3	FZ	FC	FC
4	FA	FC	FC
5	EZ	EC	EC

The 'gbzone' window also shows 'Odd ZIP: ' and 'Abs X' and 'Abs Y' coordinates. The main window also displays 'Starts at: ' and 'Ends at: ' coordinates. The status bar at the bottom shows 'User: train2' and 'OVR Rec 1'.

Adding a zone or reporting area that splits a street

If the even and odd sides of a street segment lie in different zones, the different zones can be entered in the Street Zone Detail window (gbzone). It is unnecessary to enter two records in gbstreet for this type of street segment.

Adding or annexing cities from Spillman

To add or annex a city from Spillman:

1. At the Spillman command line, enter **apcity**.

The City Codes screen opens.

2. Add the city code. For more information, see [“Entering city codes” on page 41](#).

NOTE

If the city has more than one ZIP Code, a separate city code must be added for each part of the city that has a different ZIP Code. For more information, see [“Adding or modifying ZIP Codes for a city” on page 292](#).

3. At the Spillman command line, enter **gbstreet**.
The Geobase Street Segments screen opens.
4. Search for the desired records of the city to be annexed, and then add or modify the street segments.
 - If the street segments already exist, then the city code may simply need to change.
 - If the street segments do not exist, then add them, making sure to adhere to the abbreviations set up in **gbabbr**. For more information, see [“Adding abbreviations” on page 273](#).
5. At the Spillman command line, enter **gbsaka**.
The Alias Street Names screen opens.
6. Search for the desired record, and do the following:
 - Add the city’s street aliases.
 - Add the city’s common places.
7. At the Spillman command line, enter **tbzones**.
The Zone Codes screen opens.
8. Search for the desired record, and define the zones and reporting areas.
9. In the Street Zone Detail window of the **gbstreet** record, link each street to its zones and reporting areas.
10. At the Spillman command line, enter **addr**.
The Address Information window opens.
11. In the Address Information window, verify each new address.
12. Run **gbrekey** and resolve any errors found.
13. If a lot of **gbstreet** records were added, or the x- and y-coordinate values were changed in **gbstreet** records, then run the **regindex** utility.

Adding or modifying ZIP Codes for a city

If a city in your jurisdiction expands to include more ZIP Codes, then a separate city code must be defined for each part of the city with a different ZIP Code. The city code of each street segment with a new ZIP Code must then be changed.

To add or modify Zip Codes for a city:

1. At the Spillman command line, enter **apcity**.

The City Codes screen opens.

2. For each part of the city that has a different ZIP Code, define a separate city code.

3. At the Spillman command line, enter **gbstreet**.

The Geobase Street Segments screen opens.

4. Search for street records that have new ZIP Codes and modify their city codes.

NOTE

If a street crosses a ZIP Code boundary, break the street into segments so each segment is in only one ZIP Code area.

5. Run **gbrekey**.

6. At the Spillman command line, enter **sh** to shell out to UNIX.

7. At the \$ prompt line, enter the following command to print the `gbrekey.log` to the default printer: **cat gbrekey.log | lp**

The log lists the addresses `gbrekey` cannot find, using the following format: Address xxxx not found.

8. At the Spillman command line, enter **gbaddrx**.

The Geobase Address SAA Backdoor screen opens.

9. Click **Srch**, and in the **Address ID** field, enter the first address not found by `gbrekey`.

10. Click **Accept**.

11. Evaluate the displayed record. If the ZIP Code was changed for this address, then modify the city code to reflect the new ZIP Code.

12. Repeat steps 9–11 for all addresses not found by `gbrekey`, and resolve any errors found. For more information, see [“Error messages from gbrekey” on page 375](#).

13. Run `gbrekey` again to verify all errors are fixed.

When new Spillman records are now created, the software assigns the updated ZIP Codes according to the new city codes. However, it does not update the city codes in existing records.

14. In the Names table (`names`), the Law Incident table (`law`), and other Spillman tables, modify the city codes in existing records.

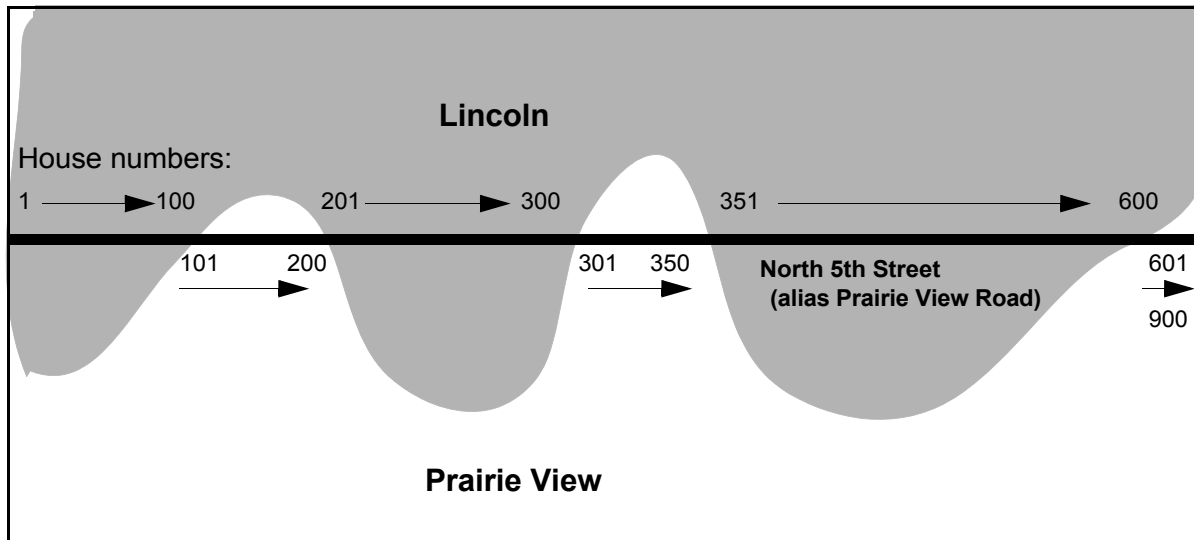
Adding street aliases

To add aliases for a street:

1. At the Spillman command line, enter **gbsaka**.
The Alias Street Names screen opens.
2. Click **Add**.
3. Complete the following fields:
 - **Street Name**: Enter the name of the street to add an alias to, or click the Lookup button and select it from the displayed list.
 - **Street Alias**: Enter the alias name to add for this street.
 - **City Code**: Enter the three-character code of the city where the street is located, or click the Lookup button to select it from the displayed list.
 - **Start House Number**: Enter the lowest house number for the section of street this alias applies to, or enter 0 to indicate that the alias applies to the entire street.
 - **Final House Number**: Enter the highest house number for the section of street this alias applies to, or enter 0 to indicate that the alias applies to the entire street.
4. Click **Accept**.

If the street that an alias is being added to runs through two or more cities, and the alias is applicable in multiple cities, then a `gbsaka` record must be created for each crossing of a city boundary.

For example, in the following illustration, the street North 5th Street runs through the cities Lincoln and Prairie View, and the street alias Prairie View Road applies to both cities.



Since the street runs through at least two cities, and the street alias applies to multiple cities, the following six gbsaka records must be created.

Street	Street alias	City	Beginning house number	Ending house number
North 5th Street	Prairie View Road	LIN	1	100
North 5th Street	Prairie View Road	PV	101	200
North 5th Street	Prairie View Road	LIN	201	300
North 5th Street	Prairie View Road	PV	301	350
North 5th Street	Prairie View Road	LIN	351	600
North 5th Street	Prairie View Road	PV	601	900

Adding alerts to an address

Before alerts can be added to an address, your agency's address alert codes must be specified in the Geobase Address Alert Codes table (tbgbalrt). Use the following processes to add alerts to an address:

- [“Specifying codes for address alerts” on page 295](#)

- “Attaching alerts to an address” on page 295
- “Changing the priority of the alerts for an address” on page 297

Specifying codes for address alerts

To specify alert codes for your agency:

1. At the Spillman command line, enter **tbgbalrt**.
The Geobase Address Alert Codes screen opens.
2. Click **Add**.
3. Complete the following fields:
 - **Geobase Alert Code:** Enter a code of up to four characters for the alert code. For example, **FIRE**.
 - **Description:** Enter a description of up to 30 characters for the alert code. For example, **Fire Hazard**, as shown in the following example,.

4. Click **Accept**.

Attaching alerts to an address

To attach one or more alerts to an address:

1. From the Geobase Address SAA Backdoor table (gbaddrx) or the Geobase Address Maintenance table (gbaddr), search for the record whose address requires an alert.

The address record opens.

The screenshot shows the 'Geobase Address SAA Backdoor' application window. The 'Address' section contains the following fields:

- Address ID: 17
- Prefix:
- House #: 300
- Suffix:
- Pre-Type:
- Pre-Directional:
- Street Name:
- Full Street: N BROADWAY ST
- Post-Type:
- Post-Directional:
- Occupancy Type:
- Occupancy Value:
- Cross Street:
- Intersection:
- City: SFD Springfield
- State: ND
- ZIP: 79134
- User-Defined XY: N
- Coordinates: X: 4188 High Bits: 2 Y: 3211
- Intersection of: N BROADWAY ST & MAHOGANY AVE

The 'Directions' section has fields for 'Directions' and 'Location'.

The 'Alerts' section shows a table of address alerts:

Address Alerts:	Code	Date	Review Date
	DRUG	10/24/01	10/24/02
	Possible Drugs on Premises	/ /	/ /
	Fire Hazard	/ /	/ /

At the bottom, it shows 'User: train2' and 'Go back in current settable'.

- Highlight the **Mod** button, and then press Spacebar.

All fields on the screen become numbered and the Modify field dialog box opens.

The 'Modify field' dialog box is shown with a single input field containing the number '0'. There are 'Ok' and 'Cancel' buttons at the bottom.

- In the dialog box, enter the number of the **Address Alerts** field, and then click **OK**.

The Geobase Address Alerts detail window opens.

- Click **Add**.

In the **Seg** field, the software assigns a unique sequential number to the address alert.

- In the **Code** field, enter the alert code, or click the Lookup button to select it from the displayed list. For example, **DRUG**. The code must be a valid value from the `tbgbalrt` table.

- Click **Accept**.

The software automatically displays the description of the code, and populates the current date in the **Date** field.

Seq	Code	Description	Date	Review Date
1	DRUG	Possible Drugs on Premises	01/13/09	

7. In the **Date** field, change the date if necessary.
8. In the **Review Date** field, enter a future date if desired. When records are later searched on and they have an expired review date, alerts that are no longer pertinent can be removed. For more information, see [“Removing outdated address alerts” on page 313](#).
9. Click **Accept**.
10. Repeat steps 4–9 as needed to attach additional alerts to this address.

Changing the priority of the alerts for an address

When multiple alerts are attached to an address, only the first alert displays next to the address on Spillman screens. An ampersand (&) follows the first alert to notify users that additional alerts exist for the address.

For example, the following Names record displays the address alert Drug &, notifying users that the address 300 W Alabama St has a DRUG alert and at least one other alert associated with it.

Multiple address alerts

To view the other alerts, highlight **View**, and then press Spacebar. All fields become numbered and the Field to view dialog box opens. Enter the number of the **Address Alerts** field, and then click **OK**. The Geobase Address Alerts detail window opens to display all alerts associated with the address.

To change the priority of alerts so a different alert displays first on a Spillman screen:

1. From the Geobase Address SAA Backdoor Table (gbaddrx), search for the record whose address alerts need to be modified.
2. With the desired record open, highlight the **Mod** button, and then press Spacebar.

All fields on the screen become numbered, and the Modify field dialog box opens.

3. In the dialog box, enter the field number of the **Address Alerts** field.

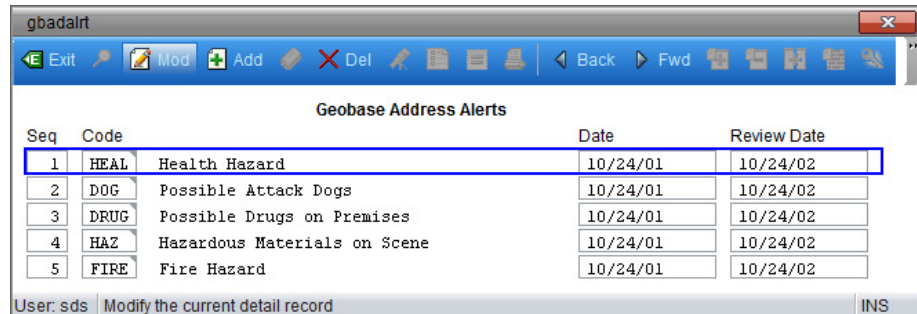
The Geobase Address Alerts detail window opens.

Seq	Code		Date	Review Date
1	DOG	Possible Attack Dogs	10/24/01	10/24/02
2	DRUG	Possible Drugs on Premises	10/24/01	10/24/02
3	HAZ	Hazardous Materials on Scene	10/24/01	10/24/02
4	HEAL	Health Hazard	10/24/01	10/24/02
5	FIRE	Fire Hazard	10/24/01	10/24/02

User: sds Add a new detail record INS

4. Click **Fwd** until the desired alert to be the highest priority is highlighted.
5. Click **Mod**.
6. In the **Seq** field, enter 1.
7. Click **Accept**.

The highlighted alert is now the first alert to display on Spillman screens, and the software automatically renumbers the other alerts.



Seq	Code		Date	Review Date
1	HEAL	Health Hazard	10/24/01	10/24/02
2	DOG	Possible Attack Dogs	10/24/01	10/24/02
3	DRUG	Possible Drugs on Premises	10/24/01	10/24/02
4	HAZ	Hazardous Materials on Scene	10/24/01	10/24/02
5	FIRE	Fire Hazard	10/24/01	10/24/02

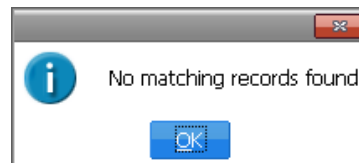
User: sds | Modify the current detail record | INS

Adding notes about an address

To add notes or directions to an address, create a Directions entry for that address in the Geobase Address Maintenance table (`gbaddr`), which can be used to store and maintain directions for hard-to-locate addresses.

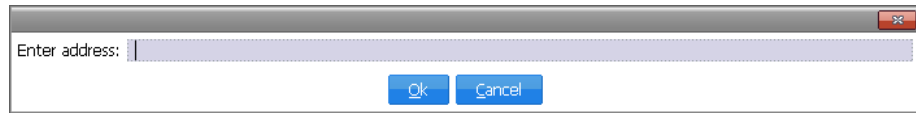
To add notes to an address:

1. At the Spillman command line, enter **gbaddr**.
The Geobase Address Maintenance screen opens.
2. Click **Srch**, and search for the address record.
 - If the address has been used in the Spillman database, the `gbaddr` record opens.
 - If the address has not been used in the Spillman database, a dialog box opens, displaying the message: No matching records found.



3. Click **Add**.

A dialog box opens, prompting for an address.



4. Enter the address, and then click **OK**.

The Geobase Address Selection window opens, displaying all candidates for the address specified.

5. Select the correct address, and then click **OK**.

The software populates the address information into the `gbaddr` record.

6. Click the **Mod** button.

7. In the **Directions** field, click the Lookup button to open the Geobase Address Maintenance table (`gbdirect`).

8. Click **Add**.

In the **Directions Number** field, the software automatically assigns a directions number.

9. In the **Directions** field, enter notes or directions for the address, or click the **Editor** button to open the text editor window and enter notes.

10. Click **Accept**.

11. Click **Use**.

The software populates the **Directions** field in the `gbaddr` record with the Directions Number, and displays the first two lines of the directions information.

Adding information about a street segment

To provide dispatchers and officers with information about a particular street segment, use the Geobase Directions Table table (`gbdirect`). The `gbdirect` table can be used to store directions for a hard-to-locate street segment, or other pertinent location information.

For example, the following `gbdirect` record notes the description of a house on a street segment and warns units of its history.

The screenshot shows a window titled "gbdirect" with a subtitle "Geobase Directions Table". The window has a menu bar (File, Edit, Search, Tools, Help) and a toolbar with icons for Exit, Search, Mod, Add, Clr, Del, View, List, Toll, Pnt, Back, Fwd, and Jadd. Below the toolbar is a "Geobase Directions" section with buttons for Inv, Orig, and Use. The main area is titled "Directions" and contains a "Directions Number:" field with the value "11". Below this is a "Directions:" text area containing the text: "Large white house, West side of street." and "Use caution: History of domestic difficulty." At the bottom of the text area is a note: "(Note: Only 1 or 2 lines will be seen in CAD)". The status bar at the bottom shows "User: train2 | Search for specific records" and "OVR".

CAUTION

If `gbdirect` information is entered for a specific street segment, then it displays whenever any address on that street segment is used—*unless* the `gbdirect` information also exists for the specific house number. In which case, information about an individual house number overrides information about a particular street segment.

Adding a record in the Geobase Directions table

A Geobase Directions Table (`gbdirect`) record can be added in the following ways:

- “Adding a `gbdirect` record when defining a street segment” on page 301
- “Adding a `gbdirect` record after defining a street segment” on page 302

Adding a `gbdirect` record when defining a street segment

To add a `gbdirect` record when defining a street segment:

1. From the desired `gbstreet` record, in the **Directions** field, click the Lookup button.

The Geobase Street Segments screen (`gbdirect`) opens.

2. From the Geobase Street Segments screen (`gbdirect`), click **Add**.

The software assigns a unique directions number to the `gbdirect` record.

3. In the **Directions** field, enter information of up to 60 characters for the street segment, or click the **Editor** button to open the text editor window and enter information. Click **Accept** to close the text editor.
4. Click **Accept** to save the `gbdirect` record.
5. Click **Use**.

The software populates the **Directions** field of the `gbstreet` record with the Directions Number, and displays the directional information from the `gbdirect` record.

Only the first two lines of directional information display in CAD. One line displays if `gbcross` is set to **Yes**, while two lines display if the `gbcross` is set to **No**. Directions will not display if the geobase feature is turned off (the `geobase` parameter is set to **False**).

6. Click **Accept** to save changes to the `gbstreet` record.

Adding a `gbdirect` record after defining a street segment

To add a `gbdirect` record after defining the street segment:

1. At the Spillman command line, enter `gbdirect`.

The Geobase Directions Table screen opens.

2. Click **Add**.

The software automatically assigns a Directions Number in the **Directions Number** field.

3. In the **Directions** field, enter direction information, or click **Editor** to open the text editor and enter information. Up to 60 characters is allowed. However, only one or two lines of information will display in CAD. Click **Accept** to exit the text editor.
 4. Click **Accept** to save the `gbdirect` record.
 5. At the Spillman command line, enter `gbstreet`.
- The Geobase Street Segments screen opens.
6. Search for the desired street record, or click the **Lookup** button to select it from the displayed list.
 7. Highlight the **Mod** button, and then press Spacebar.

All fields become numbered and the Modify field dialog box opens.

8. In the dialog box, enter the number for the **Directions** field, and then click **OK**.
9. In the **Directions** field, enter the Directions Number the software generated.
10. Click **Accept**.

For example, if a small street named Hunters Lane can be reached only from Danley Road, then this information can be linked to the `gbstreet` record for Hunters Lane. When a call is dispatched to Hunters Lane, the directions information pops up on the CAD screen and is available to the responding unit. Direction information might include the following: Access Hunters Lane from Danley Road.

Modifying Existing Information

Review the following information to use Spillman when modifying existing information in your geobase:

- “Deleting duplicate records for an address” on page 304
- “Modifying abbreviations” on page 307
- “Modifying or deleting common places” on page 308
- “Modifying or deleting street aliases” on page 309
- “Modifying zone boundaries” on page 310
- “Modifying ZIP Codes for a city” on page 311
- “Moving a street segment” on page 312
- “Removing outdated address alerts” on page 313
- “Modifying street names” on page 314
- “Reviewing non-geobased addresses” on page 315
- “Shortening intersection names” on page 319
- “Recalculating x-, y-coordinates of a single address” on page 321
- “Using gbrekey to update x-, y-coordinates” on page 323

Deleting duplicate records for an address

After changing an abbreviation or a street name, two gbaddrx records may accidentally be created for the same street address. For example, two gbaddrx records may contain the following information.

Gbaddrx record	Address ID	House #	Street
First	23	100	N Main
Second	187	100	North Main

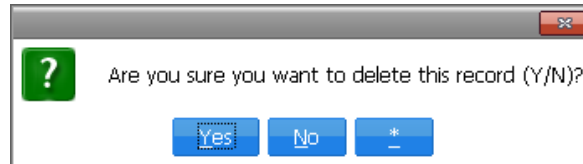
If duplicates exist, then the record containing the incorrect address must be deleted.

To delete a duplicate record:

1. At the Spillman command line, enter **gbaddrx**.
 The Geobase Address SAA Backdoor screen opens.
2. Search for the record with the incorrect address.

3. Click the **Del** button.

The software opens a dialog box, displaying the following message:
Are you sure you want to delete this record (Y?N)?



4. Click **Yes**.

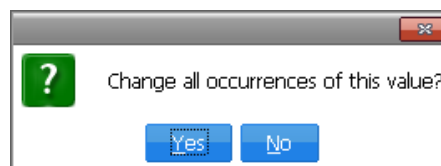
- If the record is *not* referenced by any other record in the database, then the software deletes the record.
- If the record is referenced by another record in the database, such as a Name record or Law Incident record, then a dialog box opens, displaying the following message: Field gbaddr.number ref'd by field cdcall.addrid; delete not allowed.



5. Click **OK**.

6. At the Spillman command line, enter **su** to enable Super User status, and then click **OK** to return to the Spillman command line.
7. In the incorrect record, change the Address ID to match the Address ID in the correct record. For example, if the Address ID 23 is incorrect, change it to the correct Address ID 187.

A dialog box opens, displaying the following message: Change all occurrences of this value?



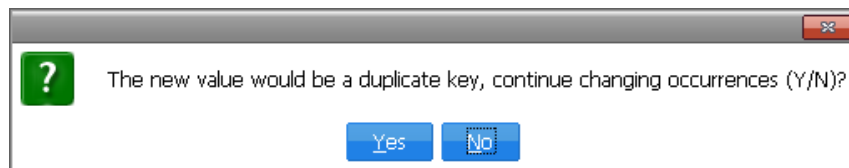
8. Click **Yes**.

- If the software is able to change the value, a dialog box opens, stating that Spillman no longer contains duplicate records for that record.



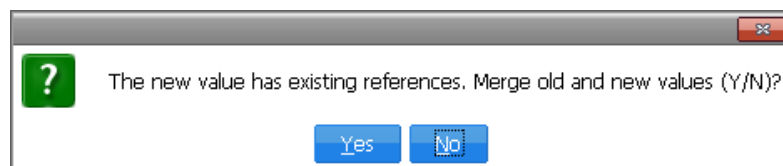
Click **OK**. The deletion task is complete and the `gbaddrx` table can be closed. At the Spillman command line, enter `su` to disable Super User status.

- If the software is unable to change the value, a dialog box opens, displays the following message: The new value would be a duplicate key, continue changing occurrences (Y/N) ?.



9. Click **Yes**.

A dialog box opens, displaying the following message: The new value has existing references. Merge old and new values (Y/N) ?



10. Click **Yes**.

A dialog box opens, stating the number of references changed.

11. Click **OK**.

A dialog box opens, stating that a duplicate record already exists.

12. Click **OK**.

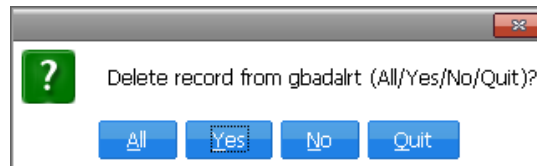
13. Click **Cancel**.

14. Click the **Del** button to delete the record.

A dialog box opens, asking for verification to delete the record.

15. Click **Yes**.

A dialog box opens, displaying the following message: Delete record from gbadalrt (All/Yes/No/Quit)?.



16. Click **Yes** to delete the record.

A dialog box opens, stating the record is deleted.

17. Click **OK**.

18. Click **Exit** to close the gbaddrx table.

19. At the Spillman command line, enter **su** to disable Super User status.

Modifying abbreviations

If an abbreviation is changed in the `gbabbr` table, then *all* street names that use that abbreviation must be changed.

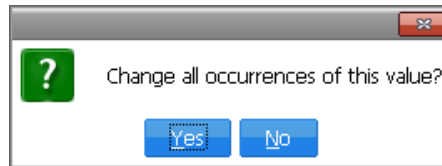
NOTE

Changing street names is time consuming and may create duplicate records that must be deleted. Do not change abbreviations without good reason.

To modify an abbreviation:

1. At the Spillman command line, enter **gbabbr**.
The Street Part Abbreviations screen opens.
2. Search for the preferred abbreviation to change. For example, **avenue**.
3. Click the **Mod** button.
4. In the following fields, change information as necessary.
 - **Preferred abbreviation:** Enter the new preferred abbreviation. For example, if the original value is *Avenue*, enter **AV**.

- **Alternate abbreviation:** Enter the new alternate abbreviation. For example, if the original value is AV, enter **Avenue**.
 - **Translate to preferred form?:** Enter **Y**.
5. Click **Accept** to save the changed record.
 6. At the Spillman command line, enter **gbstname**.
 The Geobase Street Names screen opens.
 7. In the **Street Name** field, enter the preferred abbreviation within asterisks (*), and then click **Accept** to search for records with that abbreviation. For example, ***avenue***.
 8. At the Spillman command line, enter **su** to enable Super User status, and then click **OK** to return to the Spillman command line.
 9. In the first record that matches the search, modify the **Street Name** field value to the new preferred abbreviation. For example, if the first record displays Aspen Avenue, change it to **Aspen AV**.
 A dialog box opens, asking for verification to change all occurrence of this value.



10. Click **Yes**.
11. Click **Fwd** to display the next record in the selection set, and then change the **Street Name** field value.
12. Repeat step 11 until the end of the selection set.
13. Click **Exit** to close the **gbstname** table.
14. At the Spillman command line, enter **su** to disable Super User status.

Modifying or deleting common places

To modify a common place:

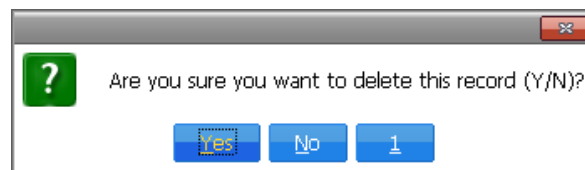
1. At the Spillman command line, enter **gbsaka**.
 The Geobase Street Alias screen opens.
2. Search for the desired record to modify.
3. Click the **Mod** button.

4. Make the necessary changes.
5. Click **Accept**.

To delete a common place:

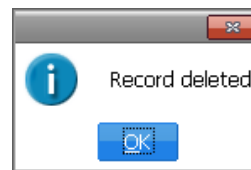
1. At the Spillman command line, enter `gbsaka`.
The Geobase Street Alias screen opens.
2. Search for the desired record to delete.
3. Click the **Del** button.

A dialog box opens, asking for verification to delete the record.



4. Click **Yes**.

A dialog box opens, stating the record is deleted.



5. Click **OK**.

NOTE

If the beginning and ending house numbers of a common place are the same—as is usually the case—the Spillman software stores the common place as a comment following the actual street address, with a semicolon (;) separating the common place from the street address. For example 1800 Florence Blvd; Pizza Hut. A common place that is stored as a comment still displays in records created before the common place was deleted.

Modifying or deleting street aliases

To modify a street alias:

1. At the Spillman command line, enter `gbsaka`.
The Alias Street Names screen opens.

2. Click the **Mod** button.
3. Change the **Street Alias** field value.
4. Click **Accept**.

When adding and searching for addresses, the new alias can be used in place of the actual street name, but the old one cannot.

To delete a street alias:

1. At the Spillman command line, enter **gbsaka**.
 The Alias Street Names screen opens.
2. Click the **Del** button.
 A dialog box opens, asking for verification to delete the record.
3. Click **Yes**.

NOTE

Unlike the beginning and ending house numbers of a common place, the beginning and ending house numbers of a street alias usually *are* different. Therefore, the Spillman software does not store the street alias as a comment following the actual street address.

Modifying zone boundaries

To modify zone boundaries:

1. Write down the streets affected by the zone change, and include the following information:
 - The new x-coordinate for the center of the zone.
 - The new y-coordinate for the center of the zone.
 Zone information for the affected street segments will need to be changed later in the `gbstreet` table.
2. At the Spillman command line, enter **su** to enable Super User status, and then click OK.
3. At the Spillman command line, enter **tbzones**.
 The Zones Codes screen opens.
4. Search for the zone code to be changed, or click **List**, and then select the zone from the displayed list.
5. Click the **Mod** button.
6. In the appropriate fields, enter the new x- and y-coordinates.

7. Click **Accept**.

Modifying a street segment at a zone boundary

If the street crosses a zone boundary, divide it into segments at the boundary, and then modify each street segment record for all streets affected by the change (street segments no longer in the zone and those now included in the zone).

To modify a street segment at a boundary:

1. At the Spillman command line, enter **gbstreet**.
The Geobase Street Segments screen opens.
2. Search for the desired street name, or click the Lookup button and select it from a displayed list.
3. Highlight the **Mod** button, and then press Spacebar.
All fields become numbered and the Modify field dialog box opens.
4. In the dialog box, enter the number of the **Zones** field.
5. In the **Zones** field, click the **Detail** button.
The gbzone detail window opens.
6. Click **Mod** to modify existing zone information, or click **Add** to add new zones.

NOTE

If anything is changed in a zone, add or modify the zone in the `tbzones` table. For example, if a different agency is assigned to the zone, change the agency in the `tbzones` table. If a new agency is created to respond to incidents in the new zone, specify the agency in the `apagency` table.

7. When finished, click **Exit** to close the detail window.
8. Click **Accept** to save changes to the record.

Modifying ZIP Codes for a city

If a city in your jurisdiction expands to include more ZIP Codes, a separate city code must be defined for each part of the city that has a different ZIP Code. The city code of each street segment that has a new ZIP Code must then be changed. For information on modifying ZIP Codes for a city, see [“Adding or modifying ZIP Codes for a city” on page 292](#).

Moving a street segment

To move a street segment, the new x- and y-coordinates of both ends of the street segment must be known. Use the `addr` utility to check the coordinates of nearby streets, such as addresses that will intersect the moved street.

To move a street segment:

1. At the Spillman command line, enter **addr**.

The Address Information screen opens.

2. In the **Address** field, enter the address, and then click **Submit**. For example, **100 N Broadway**.

The Geobase Address Selection window opens, displaying all address candidates.

3. Select the correct address, and then click **OK**.

The screen displays information on that address, including the x- and y-coordinates.

4. Determine in which zones the street now lies, and then write down all zone information for each street segment.

5. At the Spillman command line, enter **gbstreet**.

The Geobase Street Segments screen opens.

6. Search for the street segment.

- If the street falls in a different zone, define the new zone in the Zones Codes table (`tbzones`).

7. In the **Details** area, update the following fields, if necessary:

- **City Code**
- **Origin Code**
- **Street Side**
- **Directions**

8. In the **Segment** area, update the following fields, if necessary:

- **Starts at, X Coord**
- **Starts at, YCoord**
- **Starts at, Number**
- **Ends at, X Coord**
- **Ends at, Y Coord**
- **Ends at, Number**

9. In the **Zones** area, update the following fields, if necessary:
 - **Layer, Odd**
 - **Layer, Even**
10. If there are directions for the street, modify or add them as necessary in the Geobase Directions table (`gbdirect`), referencing the Directions Number in the `gbstreet` table. For more information, see [“Adding information on closed streets” on page 275](#).
11. Run `gbrekey` and resolve any errors found. For more information, see [“Error messages from gbrekey” on page 375](#).

Removing outdated address alerts

Entering review dates for address alerts helps when searching for outdated alerts.

To remove outdated address alerts:

1. At the Spillman command line, enter `gbaddrx`.
The Geobase Address SAA Backdoor screen opens.
2. Highlight **Srch**, and then press Spacebar.
All fields become numbered, and a Search on field dialog box opens.
3. In the dialog box, enter the number of the **Review Date** field.
4. In the **Review Date** field, click **Type**, and then select **4 - Less Than**.
5. In the **Review Date** field, enter the most recent review date to include in the search, and then click **Accept**.

The software displays the first record containing a review date earlier than the specified date.

NOTE

Only the first two address alerts appear on the screen. Therefore, the alert whose review date meets the search criteria might not be visible. If an ampersand (&) follows the second address alert, open the detail window to view *all* alerts.

6. If an alert is no longer relevant, highlight **Mod**, and then press Spacebar.
All fields become numbered, and a Modify field dialog box opens.
7. In the dialog box, enter the number of the **Address Alerts** field.
The Geobase Address Alerts detail window opens.

8. Click **Fwd** to highlight the out-of-date alert.

9. Click **Del**.

A dialog box opens, asking for verification to delete the record.

10. Click **Yes**.

11. Delete any other out-of-date alerts for the address.

12. Click **Exit** to close the detail window.

13. Click **Accept** to save changes to the record.

14. Click **Fwd** to display the next record in the selection set, and repeat steps 6–13 for each address.

Modifying street names

If a street is renamed, such as to honor a local hero or political figure, it can be changed in the Spillman software using the Geobase Street Names table (*gbstname*). The *gbstname* table contains all street names in the geobase. Once modified in Spillman, update the street information in your GIS software.

To modify a street name:

1. At the Spillman command line, enter **su** to enable Super User status, and then click **OK** to return to the command line.

2. At the Spillman command line, enter **gbstname**.

The Geobase Street Names screen opens.

3. Search for the desired record whose current street name needs to be modified.

4. In the desired record, highlight **Mod**, and then press Spacebar.

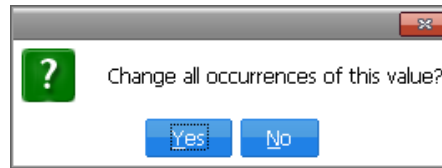
The **Street Name** field becomes numbered and the Modify field dialog box opens.

5. In dialog box, enter the number for the **Street Name** field, and then click **OK**.

6. In the **Street Name** field, enter the new name of the street.

7. Click **Accept**.

If the geobase contains multiple occurrences of the old street name, a dialog box opens, displaying the following message: Change all occurrences to this value?



8. Click **Yes** to change the name, or click **No** to keep the old values.
 - If **Yes** is clicked, then the street is renamed and the original street name is retained as an alias. A dialog box opens, indicating the number of references (geobase records) changed. Click **OK**.
 - If **Yes** is clicked and an error message opens, then Super User status is not enabled. Click **OK**. Enable Super User status, and then try again.
 - If **No** is clicked, the old values are not changed.
9. Click **Accept** to save the record.
10. Click **Exit** to close the table.
11. At the Spillman command line, enter **su** to disable Super User status.
12. In the Geobase Street Names table (gbsaka), add the new street name as a trivial alias to itself. For more information on creating gbsaka records, see [“Adding common places” on page 274](#).

Reviewing non-geobased addresses

Users sometimes enter addresses that are not geobased. For more information, see [“Adding non-geobased addresses” on page 257](#).

When a user enters a non-geobased address, the software uses the address but does not add it in the Geobase Address SAA Backdoor table (gbaddrx). Therefore, the address has no Address ID, and the **Address Indicator** field displays a colon (:) to indicate it contains no data.

Periodically check your Spillman tables for records containing non-geobased addresses, and modify the addresses as needed by doing the following:

- [“Giving yourself privileges to modify the Address Indicator field” on page 316](#)
- [“Finding and modifying non-geobased addresses” on page 317](#)
- [“Searching for reviewed, non-geobased addresses” on page 318](#)

Giving yourself privileges to modify the Address Indicator field

When checking a table for non-geobased addresses for the first time, create a User Privileges Table (`sypriv`) record that allows you to modify the **Address Indicator** field in that table.

In the `sypriv` record, the complete field name of the **Address Indicator** field to modify must be specified in the following format:
`tablename.fieldname`.

To give yourself modify privileges to the **Address Indicator** field:

1. Find the complete field name of the **Address Indicator** field.

To find the complete field name, do the following:

- Open the table to be searched for non-geobased addresses. For example, the Names table (`names`).
- Highlight **Srch**, and then press Spacebar.
All fields become numbered and the Search on field dialog box opens.
- In the dialog box, enter the number of the **Address Indicator** field.
- In the **Address Indicator** field, press Ctrl+W, and then select **4**.
The Field Description window opens, displaying the complete field name. For example, `nmmain.geoaddr`.
- Write down the complete field name, and then click **OK** to close the window.

2. At the Spillman command line, enter `sypriv`.

The User Privileges Table screen opens.

3. Click **Add** to add the `sypriv` record.

The following example shows the minimum privileges required.

The screenshot shows the 'sypriv User Privileges Table' window. The 'User' field is set to 'train2'. The 'Menu/Prgm/Table / Table[security identifier]' field is set to 'main.geoadr'. The 'May user access with admin privileges?' checkbox is checked. The 'May user access Menu/Prgm/Table w/o a password?' checkbox is checked. The 'May user Add records?' checkbox is checked. The 'May user Modify records?' checkbox is checked. The 'May user Delete records?' checkbox is checked. The 'May user Read records?' checkbox is checked. The 'May user use Partn, Pswd, [or Warn] options?' checkbox is checked. The 'May user move records out of partition?' checkbox is checked. The 'May user access Menu/Prgm/Table with a password?' checkbox is checked. The 'May user move records into partition?' checkbox is checked. The 'User' field is set to 'train2'. The 'OVR' and 'POS=0' fields are visible at the bottom right.

4. In the **User ID** field, enter your user ID, or click the Lookup button and select it from the displayed list.
5. In the **Menu/Prgm/Table [security identifier]** field, enter the complete name of the **Address Indicator** field.
6. When finished, click **Accept**.

For more information on setting up sypriv records, see the *Spillman Security Setup and Maintenance Manual*.

Finding and modifying non-geobased addresses

Before modifying non-geobased addresses, give yourself Modify privileges. For more information, see “Giving yourself privileges to modify the Address Indicator field” on page 316.

To find and modify non-geobased addresses

1. Open the desired table to search for non-geobased addresses. For example, the Names table (names).
2. Click **Srch**.
3. In the **Address Indicator** field, click **Type**, and then select 1 - Equal to.
4. Press Ctrl+Z to instruct the software to search for all records with a blank **Address Indicator** field. Blank **Address Indicator** fields contain no data but display a colon(:).
5. Click **Accept**.

A list window opens, displaying all records found where the **Address Indicator** field is blank.

6. To open the first record listed, click **Accept**.
 7. Do one of the following:
 - If the address should now be geobased, such as a street segment now exists for the address, then do the following:
 - Click the **Mod** button.
 - In the address field, retype the address correctly, and then click **Accept**.
 - From the Geobase Address Selection window, select the modified address, and then click **OK**.
 - Click **Accept** to save the record.
 - If the address should never be geobased, such as it is not in your jurisdiction, then do the following:
 - Click the **Mod** button.
 - In the **Address Indicator** field, enter a value to mark the address. For example, enter **R** to indicate the record as Reviewed. Follow your agency's policy for entering values in this field. To view the value, open the detail window.
 - Click **Accept**.
 - If a message opens, indicating the letter entered is not defined, then click **Yes** to instruct the software to use it anyway.
- The **Address Indicator** field now contains data and displays an equal sign (=) instead of a colon (:).
8. Click **Fwd**, and repeat steps 7–8 for every non-geobased address in the table.
 9. Repeat steps 1–8 for any other Spillman tables containing records with non-geobased addresses.

Searching for reviewed, non-geobased addresses

If the same value to mark an address, such as **R**, is assigned as the Address ID of all addresses reviewed but not geobased, then all of those records can be searched for.

To search for reviewed, non-geobased addresses:

1. At the Spillman command line, enter the table to search for an address. For example, the Names table (names).

2. From the desired table, click **Srch**.
3. In the **Address Indicator** field, click **Type**, and select **1 - Equal to**.
4. In the **Address Indicator** field, enter the search character, such as **R**.
5. Click **Accept**.

The software displays the first record with the search character in its **Address Indicator** field.

NOTE

The **Address Indicator** field does not display the search character. Instead, an equal sign (=) displays to indicate that it contains data.

6. To view the actual contents of the **Address Indicator** field, click **View**.
All fields become numbered and the Field to view dialog box opens.
7. In the dialog box, enter the number for the **Address Indicator** field, and then click **OK**.
A browse window opens, displaying the contents of the field.
8. Click **Fwd** or **List** to view other records in the selection set.

Shortening intersection names

When a user enters an intersection as an address, the software expands the intersection name during address verification. For example, if the intersection **W Holland Dr & N Mitchell Ave** is entered, and the actual intersecting street names are West Holland Drive and North Mitchell Avenue, then when the software verifies the intersection it changes the entry to read **West Holland Drive and North Mitchell Avenue**. This process can create long and sometimes confusing intersection names.

To shorten intersection names:

1. List all intersections whose preferred street names make unusually long or confusing intersection names.
2. At the Spillman command line, enter **gbaddrx**.
The Geobase Address SAA Backdoor screen opens.
3. Search for the intersection using the house number, street, or cross street. Including the cross street can help narrow the search.

If the address is entered incorrectly, or an address that is not defined in the geobase is entered, then an alert message opens, stating no matching records found. Click **OK**.

4. In the **Intersection** field, enter the shortened name to use for the intersection. For example, **W Bluff St & Mitchell Blvd**.

Intersection field

gbaddrx Geobase Address SAA Backdoor

File Edit Search Tools Help

GB Geobase Address SAA Backdoor

Exit Srch Mod Add Clr Del View List Totl Prt Back Fwd Jadd

Invl Ong Use ReAddr

Address

Address ID: 503

Prefix:

House #: 100

Suffix:

Pre-Type:

Pre-Directional:

Street Name:

Full Street: W BLUFF ST

Post-Type:

Post-Directional:

Occupancy Type:

Occupancy Value:

Cross Street: MITCHELL BLVD

Intersection: W Bluff St & Mitchell Blvd

City: SFD Springfield

State: ND

ZIP: 79134

User-Defined XY: N

Coordinates: X: -1269 High Bits: -10 Y: -4539

Intersection of: W BLUFF ST & MITCHELL BLVD

Directions

Directions: (Only 1 or 2 lines below will be seen in CAD)

Location:

Alerts

Address Alerts:	Code	Date	Review Date
		/ /	/ /
		/ /	/ /

User: train2 Search for specific records OVR Rec 1

NOTE

The software uses the order of the street names to determine the response zone for the intersection. The response zone corresponding to the first street name entered is used.

5. Click **Accept**.
6. Click **Exit** to close the gbaddrx table.

When users now enter the specified intersection and verify the address through the geobase, the software displays the preferred intersection name in the record.

NOTE

Intersection names can also be shortened by setting the `gbintnum` application parameter to have the software not display intersection house numbers. For more information, see “Modifying the Application Parameters for the Geobase Module” on page 51.

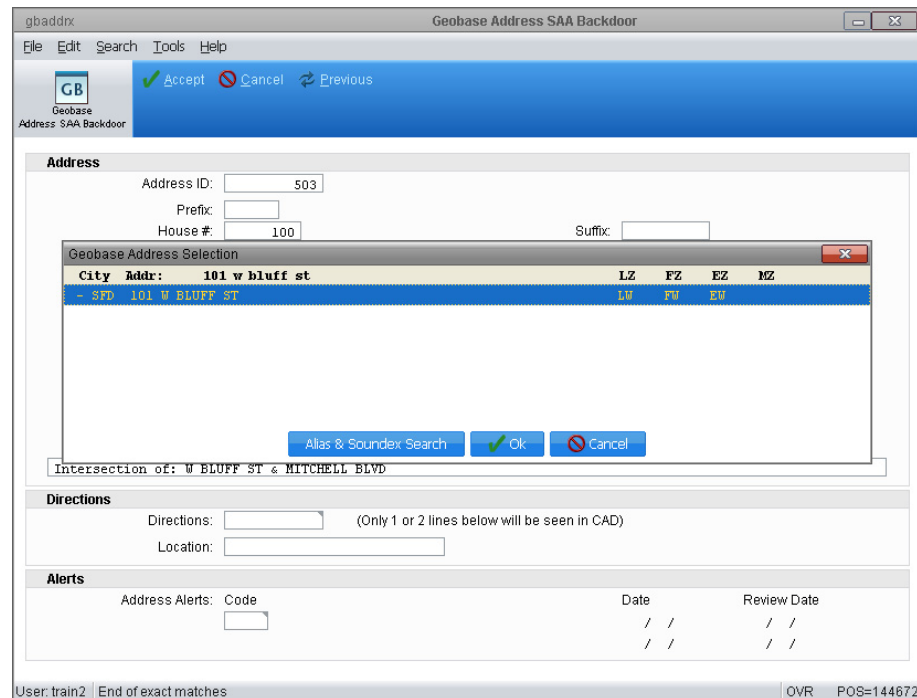
Recalculating x-, y-coordinates of a single address

The `gbrekey` utility recalculates the x-, y-coordinates of all addresses in the geobase. However, if the x-, y-coordinates of a single address need to be recalculated, then use the **ReAddr** button in the Geobase Address SAA Backdoor table (`gbaddrx`).

To recalculate x-, y-coordinates of a single address:

1. At the Spillman command line, enter **gbaddrx**.
The Geobase Address SAA Backdoor screen opens.
2. Search for the desired record, or click **List** to select from a list of all records in the `gbaddrx` table.
3. Click **ReAddr**.
A dialog box opens, prompting for an address.
4. In the **Enter Address** field, enter the address to recalculate. The address can be a physical address with the house number and street or an intersection of two streets separated by an ampersand (&).
5. Click **OK**.
 - If the address entered is invalid, an alert message opens, stating that similar addresses were not found. Click **OK**. No changes are made to the current record.

- If the address is valid, the Geobase Address Selection window opens to display one or more address candidates, as shown in the following example.



6. In the Geobase Address Selection window, select the correct address, and then click **OK**.

The software enters the selected address in the **Full Street** field of the gbaddrx record.

- If the selected address and the displayed address record are the same, the software recalculates the x- and y-coordinates and the high bits.
- If the selected address and the displayed address record are *not* the same, select the address that most closely matches the gbaddrx screen address.

If the closest match to the current address is selected, then the current address record on the screen changes and the x- and y-coordinates are recalculated.

- If the selected address cannot be verified, an alert message opens, stating that similar addresses were not found. Click **OK**. No changes are made to the current record.

Using gbrekey to update x-, y-coordinates

After making changes to the geobase, run the gbrekey program to recalculate the x- and y-coordinates. Correct any errors found by gbrekey. For more information, see [“Error messages from gbrekey” on page 375](#).

chapter 7

Maintaining the Geobase from ArcGIS

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Introduction

To perform specific geobase maintenance tasks from ArcGIS, see the following:

- “Updating Spillman” on page 326
- “Adding New Information” on page 328
- “Modifying Existing Information” on page 337

To prevent anyone other than the assistant SAA from accessing certain Geobase tables, such as Street Part Abbreviations (gbabbr) and Geobase Address SAA Backdoor (gbaddrx), limit user privileges in the User Privileges Table table (sypriv). For more information on limiting privileges, see the *Spillman Security Setup and Maintenance Manual*.

Updating Spillman

If one or two changes are made in ArcGIS, then update Spillman manually. However, if several changes are made in ArcGIS, then those changes must be transferred to the Spillman database.

To update Spillman, do the following as necessary:

- “Updating Spillman with a few changes” on page 326
- “Updating Spillman with several changes” on page 326

Updating Spillman with a few changes

If only a few changes are made in ArcGIS, then the Spillman tables can be manually updated from the Spillman software. Be sure to make the changes in all related Spillman tables.

Remember to update all maps after making changes to the geobase. For example, if dispatchers use the CAD Mapping module to view call locations and unit statuses, then the map being used on a network directory or individual PCs must be current.

Updating Spillman with several changes

To update Spillman with several changes, do the following if necessary:

- Run the **Alias Update** tool if any changes are made to the alias table or common place tables. See “Running the Alias Update tool” on page 130.

- Run the **Create Zones** tool if any changes are made to the dispatch zone layers, reporting area layers, or response plan layers. See [“Using the Create Zones tool” on page 211](#).
- Run the **Create Text Files** tool. See [“Using the Create Text Files tool” on page 221](#).
- Run `gblload`. See [“Transferring output files from ArcGIS to Spillman” on page 228](#).
- Test the data. See [“Testing the geobase data” on page 238](#).
- Transfer the data from the Geo database into the Live database. See [“Transferring data from the Geo database to the Live database” on page 248](#).

Adding New Information

To add new information in ArcGIS, see the following:

- “Adding agencies” on page 328
- “Adding common places” on page 329
- “Adding information about closed roads” on page 329
- “Adding new house numbers” on page 329
- “Adding new streets” on page 331
- “Adding new zones” on page 332
- “Adding or annexing cities in ArcGIS” on page 333
- “Adding or modifying abbreviations” on page 334
- “Adding or modifying ZIP Codes for a city” on page 335

Adding agencies

The Spillman Agency Codes table (`apagency`) must be maintained manually. If your communication center will be handling calls for a new agency, update the `apagency` table and your zone layers.

To add an agency:

1. At the Spillman command line, enter **apagency**.
The Agency Codes screen opens.
2. Click **Add**.
3. Complete at least the following fields:
 - **Agency Code**: Enter unique four-character code for the new agency.
 - **Agency Description**: Enter a brief description of that agency.
 - **Dispatch Agency Type**: Enter a one-character code for the type of dispatch agency, such as law, fire, EMS, or miscellaneous.
4. Click **Accept**.

Adding common places

To add common places in ArcGIS:

1. Add the record for the new common place in the appropriate common place table. For more information, see [“Entering information in an alias table” on page 127](#).
2. Geocode the common place table. Geocoding automatically plots the new common place on the map. For more information, see [“Geocoding a common place table in ArcMap” on page 154](#).
3. Run the **Alias Update** tool on the modified common place table. For more information, see [“Running the Alias Update tool” on page 130](#).

Adding information about closed roads

When a road is closed, or highway construction causes a detour, create a `gbdirect` record with the information in Spillman. For more information, see [“Adding information on closed streets” on page 275](#). Directional information does not need to be entered in ArcGIS. When `gbload` and the **Create Text Files** tool is run to update Spillman, the software retains the information from the geobase Attributes table.

Adding new house numbers

In ArcGIS, how new house numbers are added depends on where the construction takes place. New house numbers can be added in the following ways:

- [“Adding house numbers on an existing segment of the correct length” on page 330](#)
- [“Adding house numbers on an existing segment that is lengthened” on page 330](#)
- [“Adding house numbers on a new segment that is added to an existing street” on page 330](#)
- On a new street. See [“Adding new streets” on page 331](#).

The changes made in ArcGIS display in the Spillman software the next time the **Create Text Files** tool is run. However, the Geobase Street Segments table (`gbstreet`) can be updated manually in Spillman, if desired.

If a new building is significant, such as a new business or school, then it can be added as a common place.

Adding house numbers on an existing segment of the correct length

If a new building is constructed on an existing street, the building's address must be within the address range of the appropriate street segment. Check the geobase Attributes table for the current range.

If necessary, increase the segment's address range by changing its **Toleft**, **Fromleft** or **Toright**, **Fromright** address ranges in the geobase Attributes table. After making changes in the Attributes table, select **Editor > Save Edits** from the Editor toolbar.

Adding house numbers on an existing segment that is lengthened

To extend a street segment to accommodate new construction:

1. Open the geobase layer on your map.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. Click the **Select Features** tool.
4. Click the end of the street segment where construction is taking place, and then extend it to the correct length.
5. In the geobase Attributes table, correct the **Toleft**, **Fromleft**, **Toright**, and **Fromright** address ranges for the street segment.
6. From the Editor toolbar, select **Editor > Save Edits**.

Adding house numbers on a new segment that is added to an existing street

If the construction requires a segment to be added to an existing street, it can be added in ArcGIS, and then its information added in the `gbstreet` table in Spillman, or the segment can be drawn and its information added in ArcGIS.

To draw a new segment and add it to an existing street:

1. Open the geobase layer on your map.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. Select the **Create New Feature** tool.
4. Draw the new street segment.
5. Open the geobase Attributes table.
6. At the bottom of the geobase Attributes table, add the **Toleft**, **Fromleft**, **Toright**, and **Fromright** address ranges for the new segment.
7. From the Editor toolbar, select **Editor > Save Edits**.

Adding new streets

To add a new street to your map in ArcGIS.

1. Open the geobase layer on your map.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. Select the **Create New Feature** tool.
4. Draw the new street(s), using the following guidelines:
 - Break each street into segments where the spacing between house numbers changes, or where the street curves significantly.
 - If the street changes directions, draw two streets. Use the snap feature to make sure the streets connect.
 - If the street crosses a zone or city boundary, break the street into segments at the boundary.
 - Make sure that the streets are running the same direction as the house numbers.
5. Open the geobase Attributes table after each street is drawn. For each new line segment, ArcGIS adds a record at the bottom of the Attributes table. Enter the information for the new street in the fields of the new record.
 - Be sure to enter the actual street name, and the starting and ending house numbers for the left side and right side of the street.
 - When entering the segment records for the new street, write down any aliases for the street to add to the alias table. Also, note any common places to add to the appropriate common places layer.
6. From the Editor toolbar, select **Editor > Save Edits**.

NOTE

If a lot of street segments are added in ArcGIS, then run `gblload` in Spillman afterward. For more information, see [“Transferring output files from ArcGIS to Spillman” on page 228](#).

TIP

When adding a new street, use the following tips:

- Place zone layers over the map to make sure the new street is included in the zones. If necessary, modify the zones, areas, and response plans to include the new street.
- If a new zone is drawn, define it in the appropriate zone table.
- Enter all aliases for the new street in the alias table.
- Enter all common places on the new street into the appropriate common places table.

Adding new zones

To add a new zone, see [“Setting Up the Zone Layers” on page 158](#).

Updating Spillman after adding new zones

To update Spillman after adding a new zone:

1. If a new agency was created to respond to incidents in the new zone, specify the agency in the Agency Codes table (apagency) in the Spillman software.
2. Run the **Create Text Files** tool. See [“Using the Create Text Files tool” on page 221](#).
3. Run gblload. See [“Transferring output files from ArcGIS to Spillman” on page 228](#).
4. Test the data. See [“Testing the geobase data” on page 238](#).
5. Transfer the data from the Geo database into the Live database. See [“Transferring data from the Geo database to the Live database” on page 248](#).

Adding or annexing cities in ArcGIS

To add a new city in ArcGIS:

1. In Spillman, in the Agency Codes table (apcity), add the city code.
For more information, see [“Entering city codes” on page 41](#).

NOTE

If the city has more than one ZIP Code, add a distinct city code for each part of the city that has a different ZIP Code. For more information, see [“Adding or modifying ZIP Codes for a city” on page 335](#).

2. In ArcGIS, open the geobase layer on your map.
3. From the Editor toolbar, select **Editor > Start Editing**.
4. Draw the streets of the new city on the geobase layer. See [“Drawing streets” on page 104](#).
5. In the geobase Attributes table, add the new street information.
6. From the Editor toolbar, select **Editor > Save Edits**.
7. Open the city layer.
8. From the Editor toolbar, select **Editor > Start Editing**.
9. In the city layer, draw separate boundaries over each part of the new city or area that uses a different ZIP Code. See [“Drawing city boundaries” on page 178](#).
10. From the Editor toolbar, select **Editor > Save Edits**.
11. If a street crosses a ZIP Code boundary, break the street into segments so each segment is in only one ZIP Code area.
12. Open the alias table.
13. From the Editor toolbar, select **Editor > Start Editing**.
14. Add the city’s street aliases and common places. See [“Adding alias records to an alias table” on page 126](#).
15. From the Editor toolbar, select **Editor > Save Edits**.
16. Open the zones layers and make them editable.
17. Draw the zones and reporting areas for the city. See [“Drawing zones on the map” on page 160](#).
18. From the Editor toolbar, select **Editor > Save Edits**.
19. Run the **Create Zones** tool to define the zones and reporting areas in tbzones.

20. In the Street Zone Detail window of the `gbstreet` record, link each street to its zones and reporting areas.
21. Run the **Create Text Files** tool to transfer the output files from ArcGIS to Spillman. See [“Using the Create Text Files tool” on page 221](#).
22. Run `gbload`. See [“Transferring output files from ArcGIS to Spillman” on page 228](#).
23. Test the data. See [“Testing the geobase data” on page 238](#).
24. Transfer the data from the Geo database into the Live database. See [“Transferring data from the Geo database to the Live database” on page 248](#) for tips.

Adding or modifying abbreviations

The Street Part Abbreviations table (`gbabbr`) in Spillman is not affected by anything performed in ArcGIS. Therefore, this table must be maintained manually by doing the following:

- [“Adding abbreviations” on page 334](#)
- [“Modifying abbreviations” on page 334](#)

Adding abbreviations

Abbreviations can be added at any time. However, before adding a new abbreviation in the Street Part Abbreviations table (`gbabbr`), search to make sure no records already exist for that abbreviation. Be sure to add a record for each alternate abbreviation of a preferred abbreviation.

Modifying abbreviations

If an abbreviation is changed, then *all* street names that use that abbreviation must be changed.

To modify an abbreviation:

1. In ArcGIS, open the geobase Attributes table.
2. Locate all street names containing the abbreviation to be changed.
3. For each street name, change the current abbreviation to the new abbreviation.
4. Run the **Create Text Files** tool to transfer the output files from ArcGIS to Spillman. For more information, see [“Using the Create Text Files tool” on page 221](#).

5. Run `gbload`. See “Transferring output files from ArcGIS to Spillman” on page 228.
6. Test the data. See “Testing the geobase data” on page 238.
7. Transfer the data from the Geo database into the Live database. See “Transferring data from the Geo database to the Live database” on page 248.
8. In the Live database, change the abbreviation in the Street Part Abbreviations table (`gbabbr`).
9. Check the Geobase Address SAA Backdoor table (`gbaddrx`) by viewing the `gbrekey.log` file, and correct any errors found.

Adding or modifying ZIP Codes for a city

If a city layer was created, and a city in your jurisdiction expands to include more ZIP Codes, then a separate city code must be defined for each part of the city that has a different ZIP Code. The city code of each street segment that has a new ZIP Code must then be changed.

To add or modify Zip Codes for a city:

1. In Spillman, open the City Codes table (`apcity`).
2. In the `apcity` table, define a distinct city code for each part of the city with a different ZIP Code.
3. In ArcGIS, open the city layer.
4. From the Editor toolbar, select **Editor > Start Editing**.
5. Select the **Create New Feature** tool.
6. Draw separate boundaries over each part of the city or area that uses a different ZIP Code.
7. If a street crosses a ZIP Code boundary, break the street into segments so each segment is in only one ZIP Code area.
8. From the Editor toolbar, select **Editor > Save Edits**.
9. Run the **Create Text Files** tool. See “Using the Create Text Files tool” on page 221.
10. Run `gbload`. See “Transferring output files from ArcGIS to Spillman” on page 228.
11. Test the data. See “Testing the geobase data” on page 238.

12. Transfer the data from the Geo database into the Live database. See [“Transferring data from the Geo database to the Live database”](#) on page 248.

Modifying Existing Information

Modify existing information in ArcGIS by doing the following:

- “Deleting street aliases” on page 337
- “Moving streets” on page 338
- “Modifying abbreviations” on page 338
- “Modifying zone boundaries” on page 339
- “Modifying ZIP Codes for a city” on page 339
- “Recalculating x-, y-coordinates of a single address” on page 339
- “Recording building destruction” on page 339
- “Renaming streets” on page 339

Deleting street aliases

To delete a street alias:

1. In ArcGIS, open the alias table.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. Locate the street alias record to delete.
4. Select the street alias entry.
5. Right-click on the record, and then select **Delete**.

NOTE

If the alias is applied to more than one street segment, then delete it for all segments to which it no longer applies.

6. From the Editor toolbar, select **Editor > Save Edits**.

Deleting duplicate records

After changing an abbreviation or a street name, two `gbaddr` records may have been created for the same street address. Since tasks performed in ArcGIS do not affect the Spillman Geobase Address Maintenance table (`gbaddr`), this table must be maintained manually. For more information, see “Deleting duplicate records for an address” on page 304.

Modifying agency codes

If an agency code is changed in the Agency Codes table (apagency) in Spillman, then the change must also be made in the tbzones table in ArcGIS. Afterward, run the **Create Zones** tool. For more information, see [“Using the Create Zones tool” on page 211](#).

Deleting common places

To delete a common place from Spillman’s Alias Street Names table (gbsaka), remove the common place manually, or transfer the updated ArcGIS geobase into the Spillman software.

NOTE

If the street name and the alias name differ, then the Spillman software stores the common place as a comment following the actual street address, separated by a semicolon (;). A common place that is stored as a comment still displays in records created before the common place was deleted.

For information on deleting common places from Spillman, see [“Modifying or deleting common places” on page 308](#). For information on transferring an updated ArcGIS geobase to Spillman, see [“Transferring ArcGIS Data to Spillman” on page 228](#).

Moving streets

To move a street:

1. In ArcGIS, open the geobase layer.
2. From the Editor toolbar, select **Editor > Start Editing**.
3. Select the desired street and reposition it. Be sure the snap feature in ArcGIS is turned on so the street snaps to intersecting streets.
4. From the Editor toolbar, select **Editor > Save Edits**.
5. Transfer the updated ArcGIS geobase into the Spillman software. See [“Transferring ArcGIS Data to Spillman” on page 228](#).

Modifying abbreviations

The Street Part Abbreviations table (gbabbr) in Spillman is not affected by tasks performed in ArcGIS. Therefore, this table must be maintained manually.

If an abbreviation is changed, then *all* street names that use that abbreviation must be changed. For more information, see [“Adding or modifying abbreviations” on page 334](#).

Modifying zone boundaries

Follow the procedures in [“Adding new zones” on page 332](#) to change the zone boundaries for each modified zone.

Modifying ZIP Codes for a city

If your city expands to include more ZIP Codes, then a separate city code must be defined for each part of your city that has a different ZIP Code. Afterward, the city code of each street segment that has a new ZIP Code must be changed. To modify ZIP Codes for your city, refer to the procedure [“Adding or modifying ZIP Codes for a city” on page 335](#).

Recalculating x-, y-coordinates of a single address

The `gbrekey` utility recalculates the x-, y-coordinates of *all* addresses in the geobase. However, if the x-, y-coordinates of a single address need to be recalculated, use the **ReAddr** button in the Geobase Address SAA Backdoor table (`gbaddrx`). For more information, see [“Removing outdated address alerts” on page 313](#).

Recording building destruction

If a building is torn down, create a Directions record with this information in the Geobase Address Maintenance table (`gbaddr`) in Spillman. For more information, see [“Adding notes about an address” on page 299](#).

Renaming streets

If a street segment is renamed, such as for a local hero or political figure, it can be changed in the geobase.

To rename a street:

1. In the Geobase Street Names table (`gbstname`) in Spillman, change the name of the street. See [“Modifying street names” on page 314](#).
2. In ArcGIS, open the geobase layer.

3. From the Editor toolbar, select **Editor > Start Editing**.
4. Open the geobase Attributes table.
5. Search for the desired street, and then change its name in the geobase Attributes table. Remember to change the name of every street segment for which the new name applies.
6. From the Editor toolbar, select **Editor > Save Edits**.
7. Run the **Create Text Files** tool. See [“Using the Create Text Files tool” on page 221](#).
8. Run `gblload`. See [“Transferring output files from ArcGIS to Spillman” on page 228](#).
9. Test the data. See [“Testing the geobase data” on page 238](#).
10. Transfer the data from the Geo database into the Live database. See [“Transferring data from the Geo database to the Live database” on page 248](#).

appendix



Geobase Examples

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Example Abbreviations

The following table shows example abbreviations to enter in the Street Part Abbreviations table (gbabbr) in the Spillman software. For more information on entering abbreviations in the gbabbr table, see [“Modifying the Street Part Abbreviations Table in the Live Database” on page 42](#). For a comprehensive list of standard abbreviations, refer to the United States Postal Service.

Preferred Abbreviation	Alternate Abbreviation	Translation to Preferred Form?
1	ONE	N
2	TWO	N
3	THREE	N
4	FOUR	N
5	FIVE	N
6	SIX	N
7	SEVEN	N
8	EIGHT	N
9	NINE	N
ALY	Alley	Y
AVE	Av	Y
BLVD	Boul	Y
CNTR	Center	Y
CI	Circle	Y
CT	Court	Y
DR	Drive	Y
E	East	Y
HWY	Highway	Y
LN	Lane	Y
LP	Loop	Y
N	North	Y
PKWY	Parkway	Y
PL	Place	Y

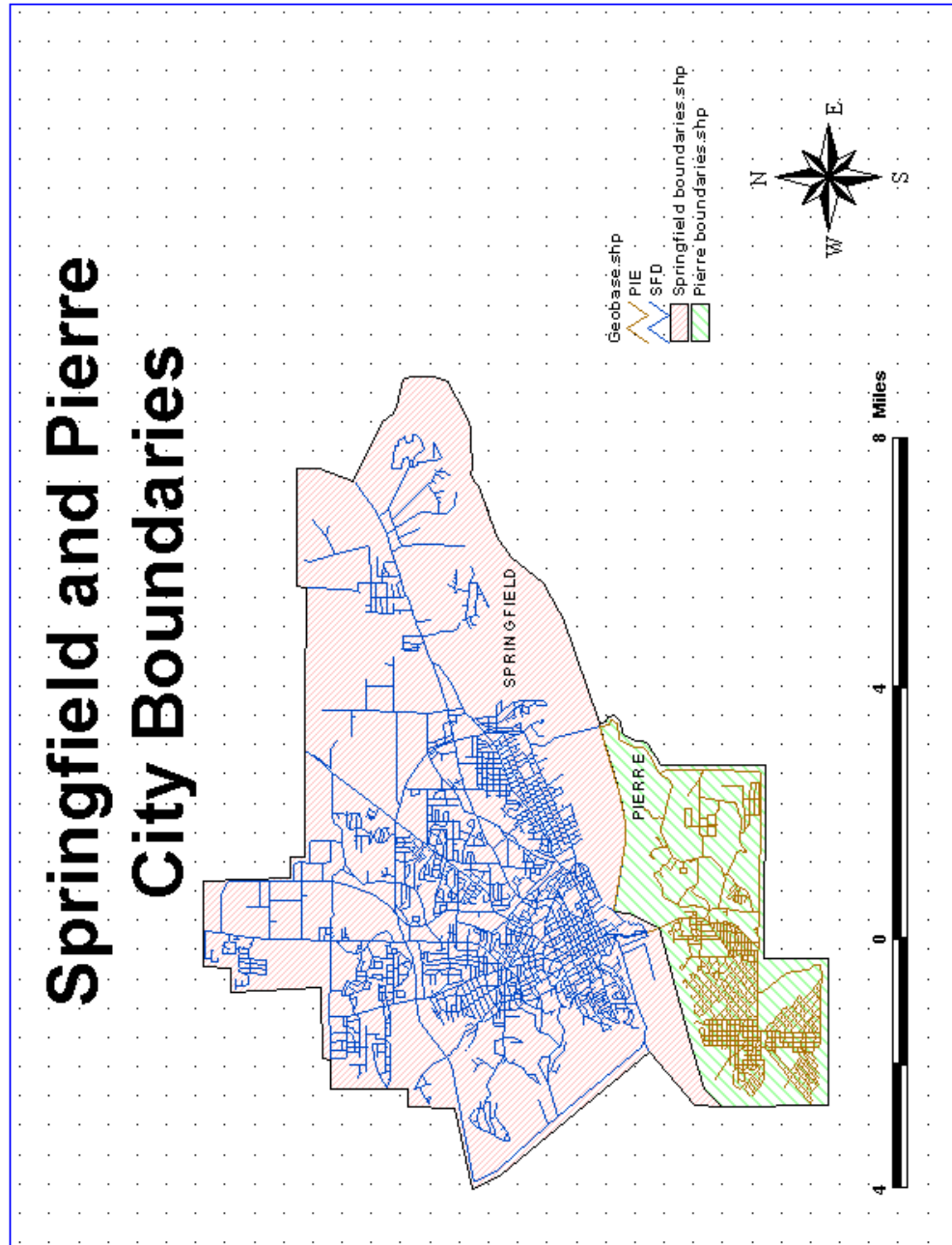


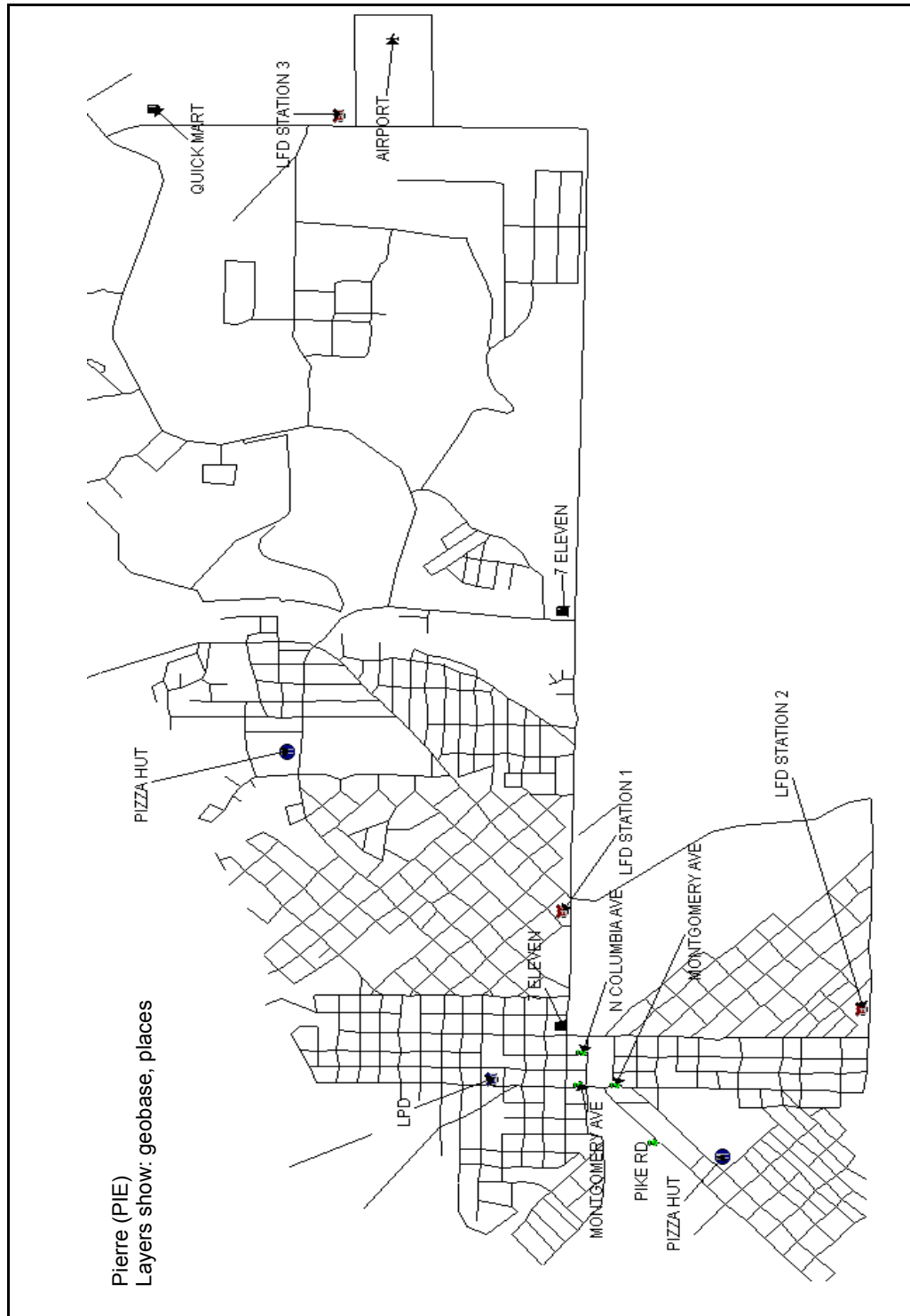
Preferred Abbreviation	Alternate Abbreviation	Translation to Preferred Form?
PZ	Plaza	Y
RD	Road	Y
SN	Saint	Y
S	South	Y
ST	Street	Y
TER	Terrace	Y
TR	Trail	Y
VI	Vista	Y
WY	Way	Y
W	West	Y

Example Maps

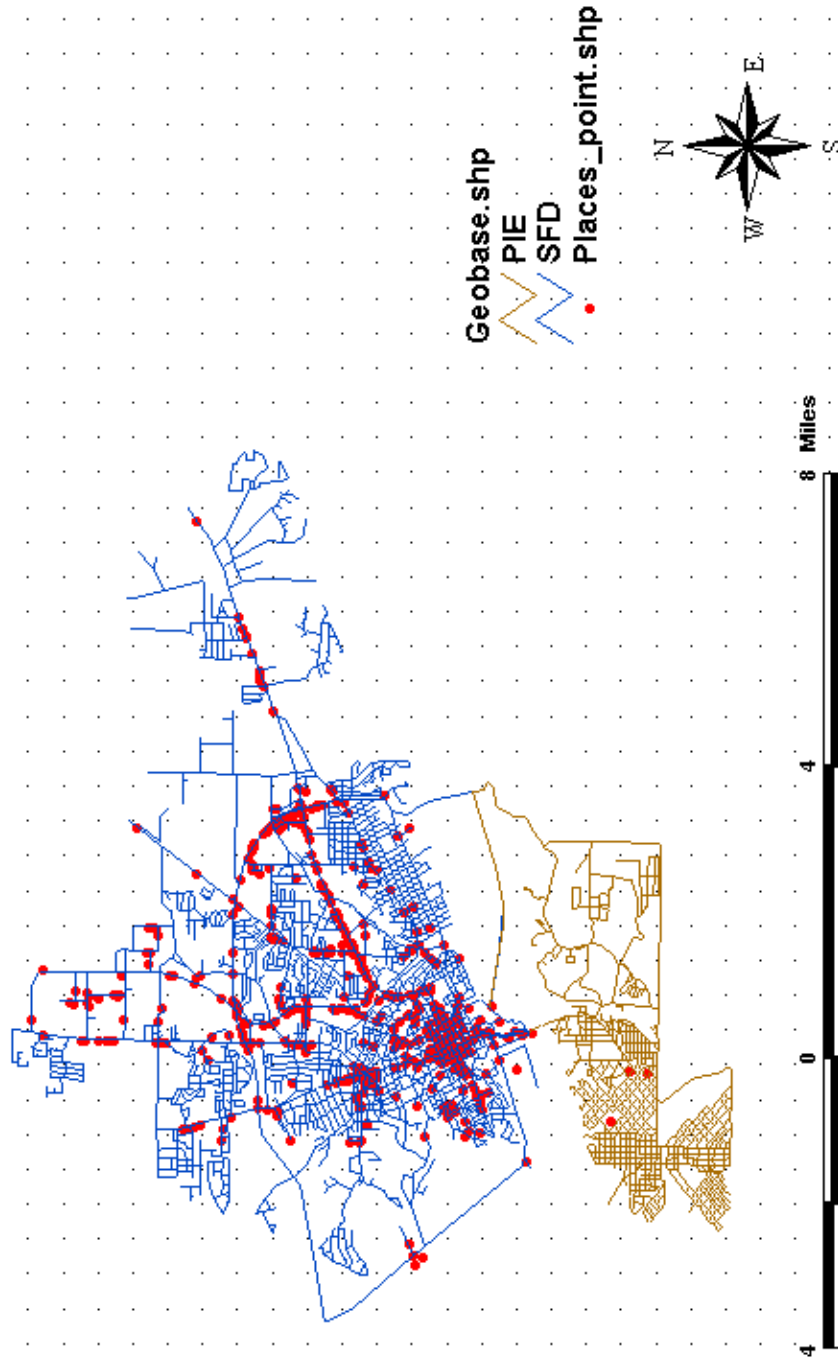
The following examples show different map features:

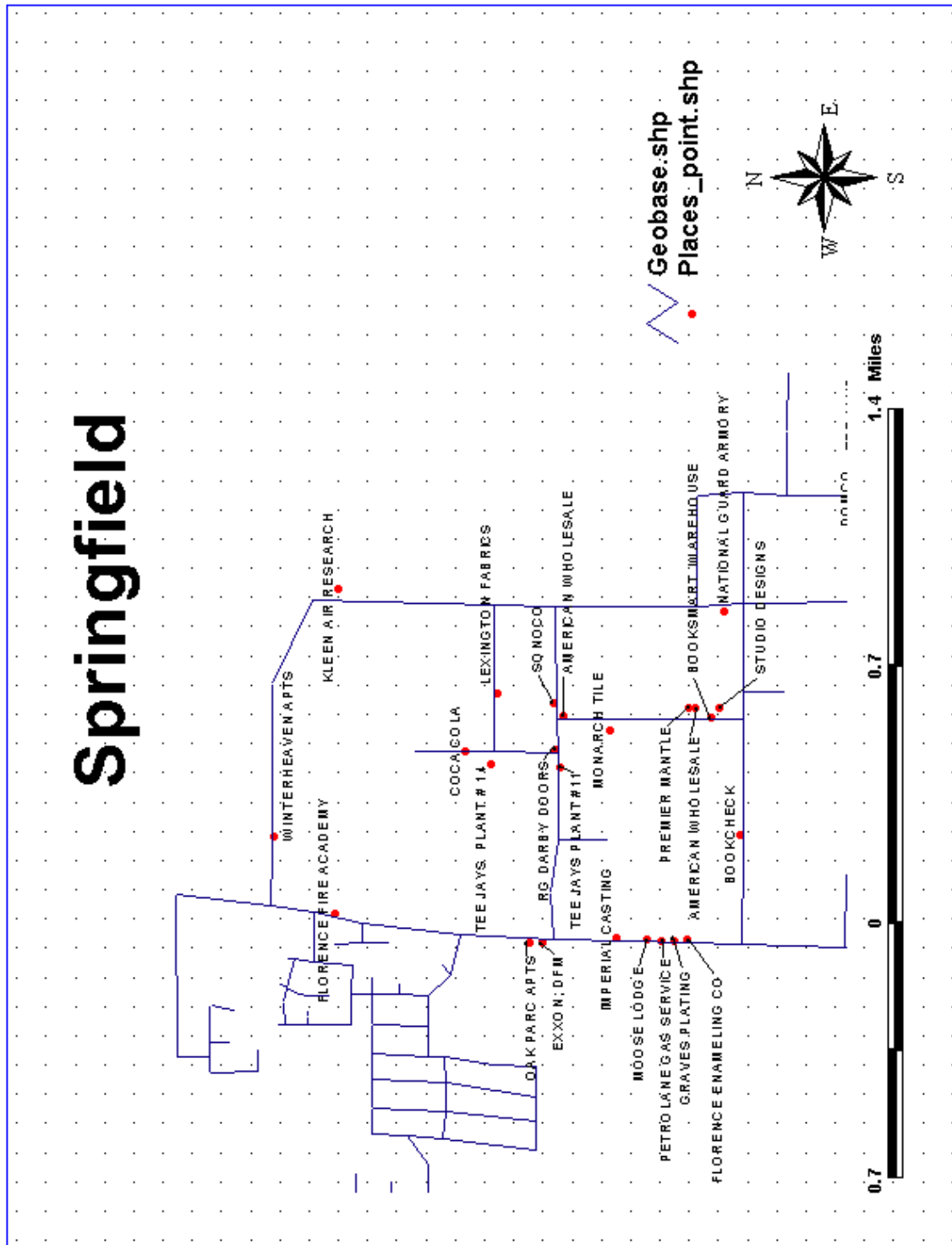
- City boundaries of Springfield and Pierre.
- Pierre's streets and common places
- Streets and common places in Springfield and Pierre (ArcGIS)
- A close-up view of a section of Springfield with the places layer labeled (ArcGIS)
- Law zones for Springfield and Pierre
- A close-up view of Pierre's South zone with the streets labeled (ArcGIS)



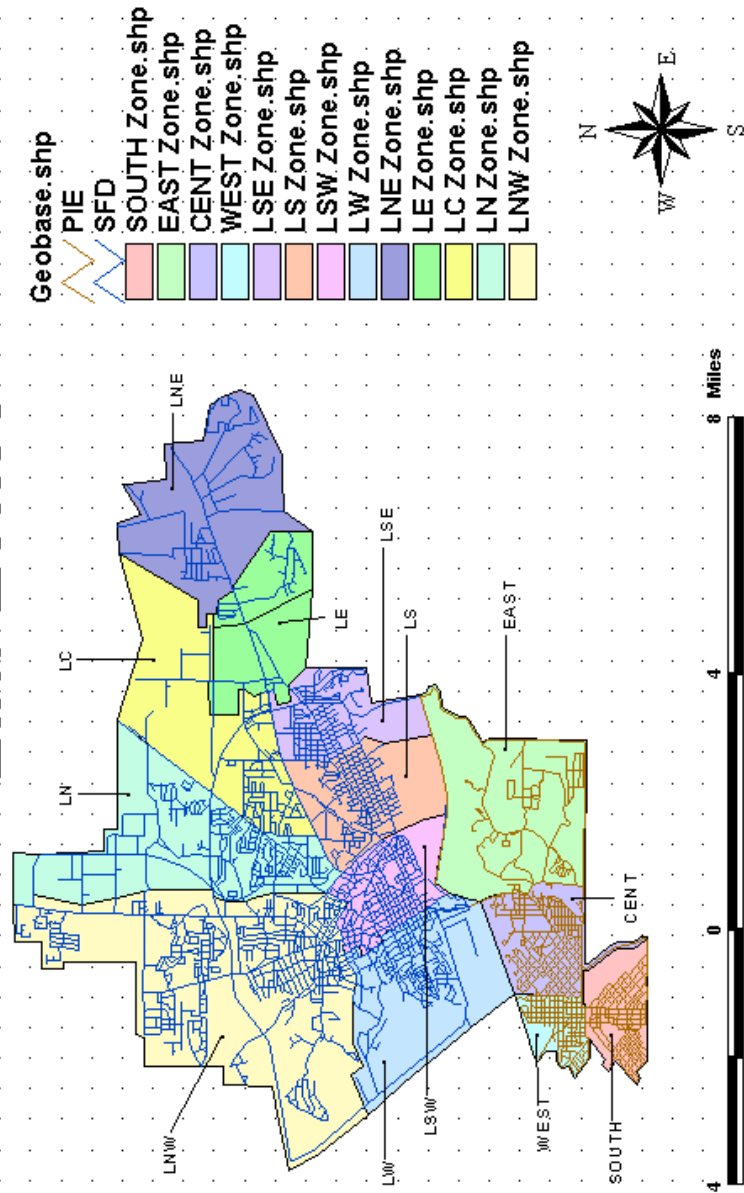


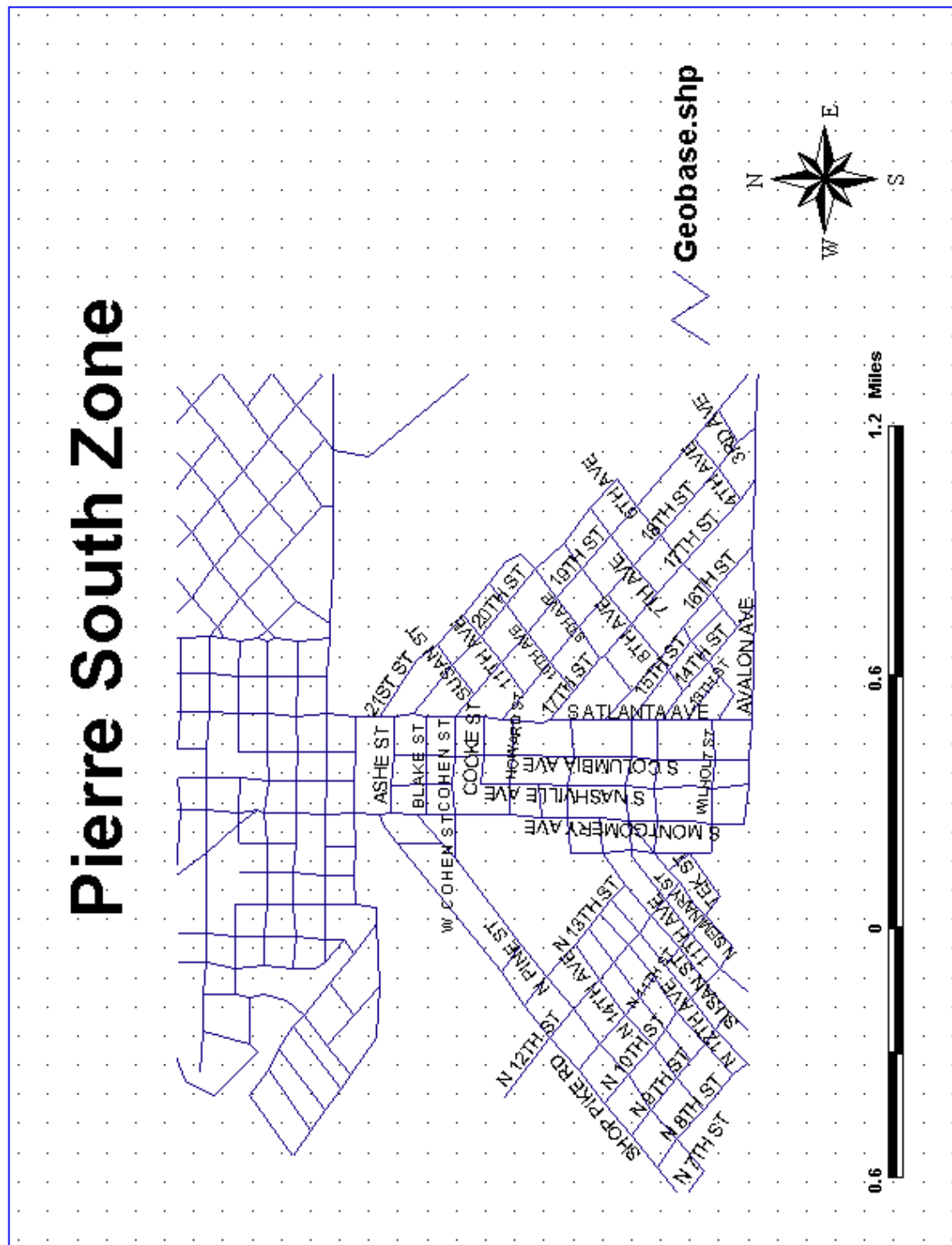
Springfield and Pierre





Springfield and Pierre Law Zones





appendix

B

Reference Information

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Introduction

Use the following reference information when using ArcGIS:

- “Understanding layers in your GIS” on page 353
- “Determining where to split streets into multiple segments” on page 354
- “Defining apartment and office buildings” on page 357
- “Using longitude and latitude coordinates” on page 363
- “Labeling your map” on page 363
- “Retaining modified x-, y-coordinates when running gbrekey” on page 368
- “Understanding gbrekey” on page 371
- “Providing access to the Geo database” on page 378
- “Understanding the gload program” on page 379
- “Understanding the gload -l program” on page 381
- “Turning on the geobase” on page 381
- “Setting MAPTRAIN to the Practice directory” on page 382
- “Setting MAPLIVE to the Live directory” on page 383
- “Removing the Geo database files” on page 383
- “Understanding the Geobase Address Selection window and grid-based addressing” on page 384

Understanding layers in your GIS

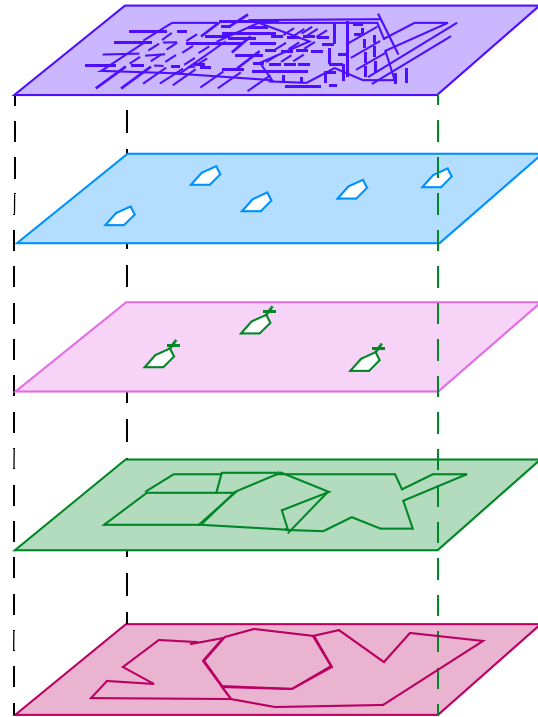
Layers are like clear plastic sheets placed over a map and over each other. The following illustration describes and demonstrates the basic layers used.

Geobase layer. Draw streets on this layer.

Alias layers. Use various alias layers to plot common places. For example, schools, churches, stores, and other buildings that frequently receive calls. A table is also created to specify street aliases (alternate names for streets).

Zone layers. Create up to 12 zone layers: one layer for each type of dispatch zone (law, fire, EMS, and miscellaneous), one layer for each type of reporting area, and one layer for each type of response plan zone. For example, draw all law dispatch zones on the `1zzone` layer.

Use the same principles to create the zone layers to draw city and county boundary layers. However, city and county layers are not required. A table is not created to build for city and county information.



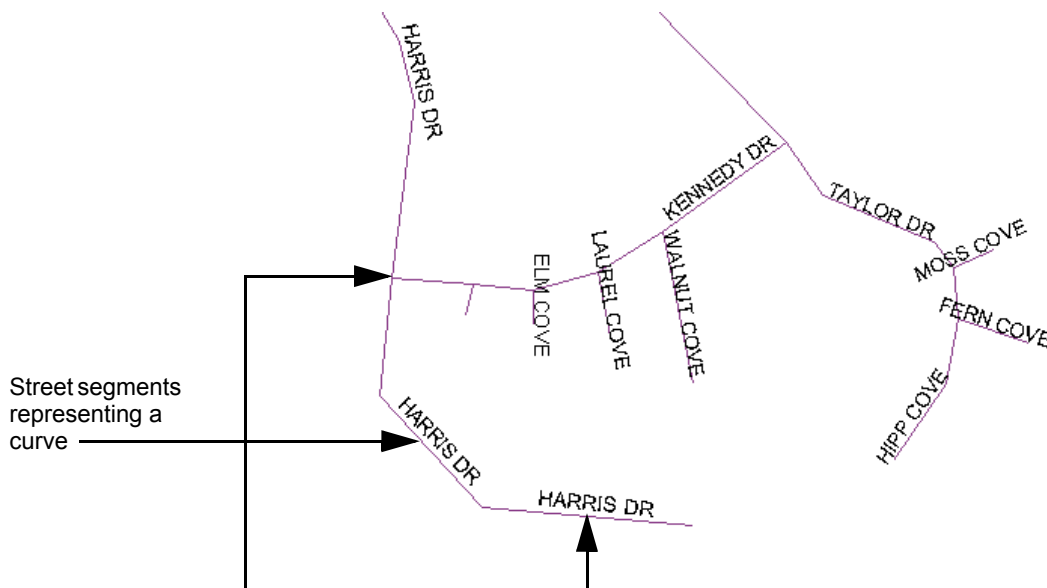
Determining where to split streets into multiple segments

For the GIS data to work properly in Spillman, street lines shown on your map must be broken into segments, regardless of whether your map is drawn or imported. Use the following criteria to determine where to place the segment breaks:

- Does the street make a significant curve?

When breaking a street into line segments, ignore insignificant bends in the road. Where a street makes a significant curve, break the street line into as few segments as possible.

For example, in the following map, a section of Harris Dr is broken into three segments to accommodate a large curve in the road.



- Does the spacing between house numbers change?

The Spillman software assumes that all house numbers on a given segment are evenly spaced. If they are not, the software may place the wrong house number at an intersection. When users later enter house numbers, the software may place house numbers on the wrong block.

To avoid this problem, begin a new segment wherever spacing between house numbers changes, as shown in the following illustration.

**TIP**

If a city has blocks of varying lengths, then spacing between house numbers might change at intersections. If this is the case, break urban streets at all intersections.

- Does the street change directions?

If a street changes directions, treat each street direction as a separate street. For example, if a North Walnut St and a South Walnut St exist in the city, then the streets must be split into separate street sections.

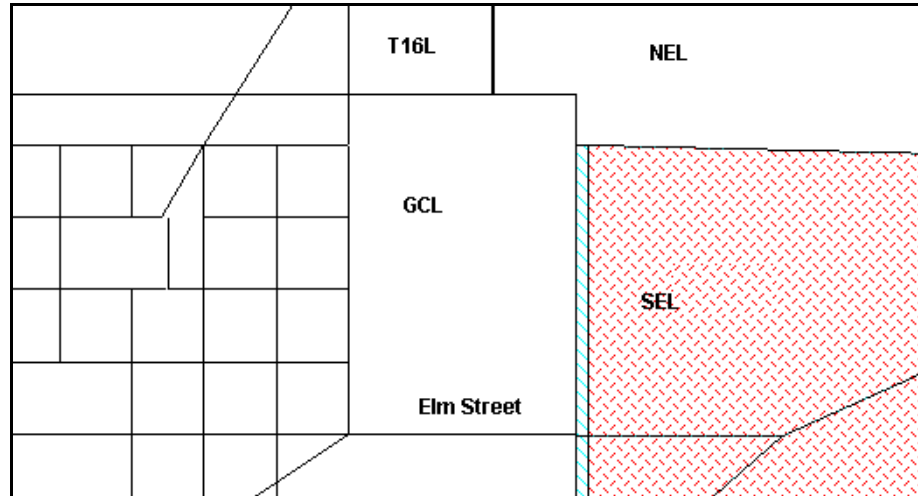
TIP

The actual street line on the map must run the same way as the street direction and house numbers.

- Does the street cross any city, county, or ZIP Code boundaries? Does it lie in more than one dispatch zone, reporting area, or response plan zone?

Wherever a street crosses any type of boundary, divide the street into segments. For example, in the following map, Elm Street traverses two law dispatch zones, Garland City Law Enforcement (GCL) and

Garland County Southeast (SEL). Therefore, the street is broken into segments at the zone boundary.



For information on establishing zones and reporting areas, see [“Setting Up the Zone Layers” on page 158](#)

NOTE

Streets are drawn before zones, cities, and counties. Therefore, double-check the street segments after the zones, cities, and counties are drawn. Any street segments that cross boundaries must be further segmented.

- Do any aliases for this street apply to only part of it?

When a street alias is entered in the alias table, the beginning and ending house numbers of the segment the alias applies to are entered, or a zero (0), to indicate the alias applies to the entire street. If the alias does not apply to the entire street, a separate segment (or more) must be created for the part of the street to the alias applies to.

Street aliases must be correct so users can enter abbreviated intersection names when searching the geobase. For example, if a segment of East College Street intersects South Walnut Street, which is also known as University Lane, then users must be able to enter **East College Street & South Walnut Street** or **East College Street & University Lane**.

- Does the street have multiple common places with the same name?

Split the street so no two common places with the same name are located on the same street segment. For example, if two McDonald's

restaurants are located on the same street, split the street so each restaurant is on a different segment.

Defining apartment and office buildings

Apartment and office buildings can be defined the same way as street segments, enabling the software to geobase specific apartments.

TIP

The same method can be used to geobase specific parking spots in a parking lot.

The following table describes geobasing buildings and apartment complexes versus individual apartment units.

Geobasing buildings/apartment complexes (one geocode per apartment building)	Geobasing individual apartments (one geocode per apartment)
Requires no additional time to set up the geobase for apartment buildings.	Requires more setup and maintenance time because each apartment in every apartment building is defined. Plan for increased maintenance time, especially if your jurisdiction continually undergoes construction of large apartment complexes, or has many houses with rented rooms.
Searching for specific apartments takes more time. When searching for records pertaining to a specific apartment, the building's address must be entered, and then the Jres (join restrict) button used to restrict the search to the specific apartment.	Searching for specific apartments takes less time. When searching for records pertaining to a specific apartment, the entire address is entered, including the apartment number. For example, to find records for apartment #3 at 100 Doubletree Ln, enter 100 Doubletree Ln #3 .
Searching for all apartments in a building takes less time. To find records for all apartments in a building, enter the street address. For example, 100 Doubletree Ln .	Searching for all apartments in a building takes more time. To find records for all apartments in a building, use a Between search.
Allows flexibility of apartment numbers. The software interprets apartment and office numbers as text rather than data, so apartment numbers do not have to meet stringent data requirements. Apartment numbers can include alphanumeric characters and can begin with either a letter or a number.	Imposes restrictions on apartment numbers. Apartment numbers must be manipulated to meet specific data requirements. Use the following tips: <ul style="list-style-type: none"> The first character following the pound symbol (#) must be a number. The following characters are allowed in the order given: up to 5 numeric characters, one alpha character, and up to 8 alphanumeric characters. For example, 12345A1a2b3c4d.

Constructing Your Map in ArcGIS

Use the following reference information when constructing your map in ArcGIS:

- “Creating a dBASE table in ArcCatalog” on page 358
- “Adding a dBASE table to ArcMap” on page 360
- “Opening a layer Attributes table in ArcMap” on page 361
- “Opening a dBASE table in ArcMap” on page 361
- “Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362
- “Using longitude and latitude coordinates” on page 363
- “Labeling your map” on page 363

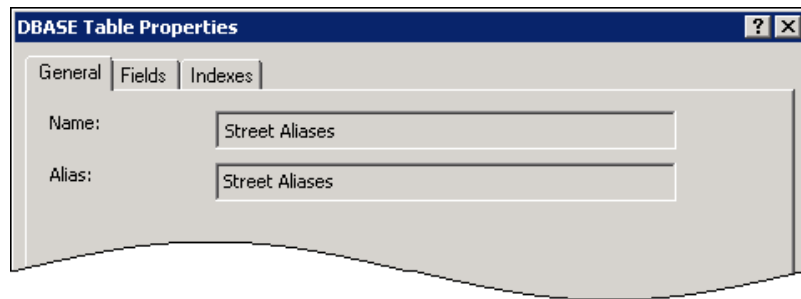
Creating a dBASE table in ArcCatalog

To create a dBASE table in ArcCatalog:

1. Open ArcCatalog.
2. Locate the map folder designated for your map files. For more information, see “[Creating a directory for your map files](#)” on page 81.
3. Select **File > New > dBASE Table**.

A dBASE table is added to your map directory.
4. Rename the new dBASE file with a name that designates the type of table being created. For example, if creating an alias table, **Street Aliases** or **City Buildings** might be entered.
5. Double-click the newly generated dBASE file, and then select **Properties**.

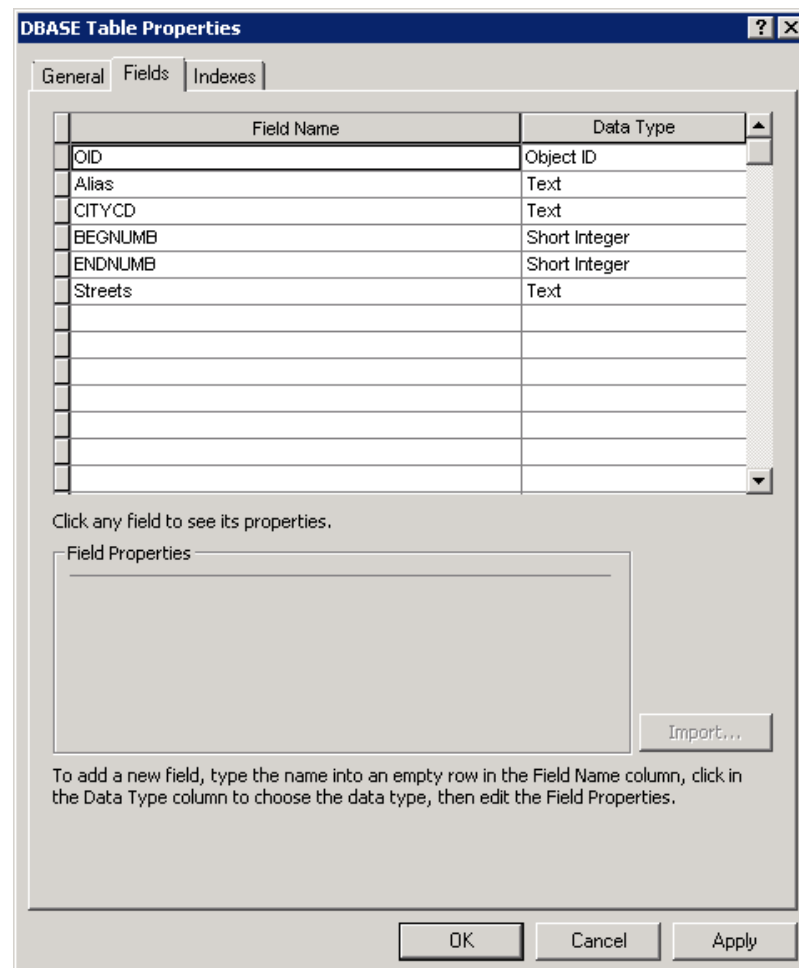
The DBASE Table Properties dialog box opens.



6. In the **General** tab, in the **Name** and **Alias** fields, the name of the dBASE file displays.
7. Click the **Fields** tab to add the appropriate fields now, or add the fields in ArcMap after the dBASE table is created. For more information, see [“Adding fields to a layer Attributes or dBASE table in ArcMap” on page 362](#).

The setup section for each layer contains a list of fields to add. For example, to add fields for an alias table, see [“Required fields for an alias layer” on page 125](#).

For example, if building a street alias table, the **Fields** tab in the DBASE Table Properties dialog box might look similar to the following.



8. Click **OK**.

Adding a dBASE table to ArcMap

To add a dBASE table to ArcMap:

1. In ArcMap, open your geobase map.
2. Click **Add Data**.

The Add Data dialog box opens.

3. Locate the map folder designated for your map files. For more information, see [“Creating a directory for your map files” on page 81](#).
4. Select the dBASE table to add, such as **Street Aliases**, and then click **Add**.

The table is added to your map.

5. To view the table icon, click the **Source** tab at the bottom of the map’s table of contents.

The alias table displays in the **Source** tab. It does not display in the **Display** tab because it is tabular data not associated with a shapefile.

Opening a layer Attributes table in ArcMap

To open a layer Attributes table:

1. In ArcMap, in the map’s table of contents, right-click the layer to view the Attributes table.
2. Select **Open Attribute Table**.

The Attribute table opens.

Opening a dBASE table in ArcMap

To open a dBASE table in ArcMap:

1. Open your map in ArcMap.
2. From the map’s table of contents, click the **Source** tab.
3. Right-click the dBASE file. For example, the alias table **Street Aliases**.
4. Select **Open**.

The dBASE table opens.

Adding fields to a layer Attributes or dBASE table in ArcMap

In ArcMap, fields can be added to any table. For a list of fields to add, see the individual setup section for each layer. For more information, see [“Required fields for the geobase Attributes table” on page 103](#).

To add fields to the Attributes or dBASE table in ArcMap:

1. Open the desired table. For more information, see [“Opening a layer Attributes table in ArcMap” on page 361](#) or [“Opening a dBASE table in ArcMap” on page 361](#).

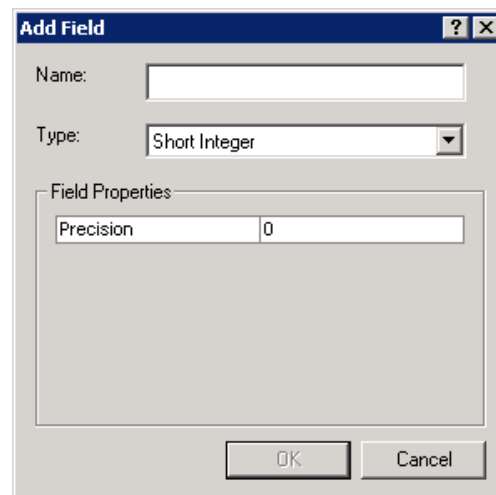
The desired table opens. If the table is a layer Attributes table, then the **FID**, **Shape**, and **Id** fields display.

2. Click **Options**.

A shortcut menu appears.

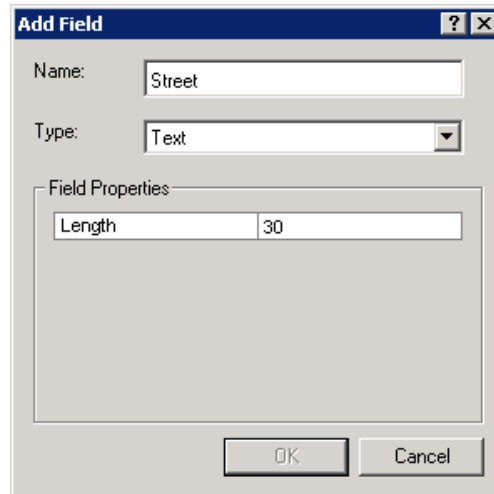
3. Select **Add Field**.

The Add Field dialog box opens.



4. In the **Name** field, enter the name of the field being added. For example, if adding the **Street** field for the geobase Attributes table, enter **Street**.
5. In the **Type** field, select the field type. Required fields use **Short Integer** or **Text**.

6. In the **Field Properties** area, replace the value 0 with the field width, as shown in the following example.



The screenshot shows the 'Add Field' dialog box. It has a title bar with a question mark and a close button. Inside, there are three main sections: 'Name' with a text box containing 'Street', 'Type' with a dropdown menu showing 'Text', and 'Field Properties' which contains a 'Length' text box with the value '30'. At the bottom right are 'OK' and 'Cancel' buttons.

7. Click **OK**.

The field is added to the Attributes table.

8. Repeat steps 3–7 for each field to be added.

Using longitude and latitude coordinates


ArcGIS uses projection coordinates, which take into account the curvature of the earth. Therefore, street data must be saved using relative longitude and latitude coordinates.

Verify that your map is set up in longitude-latitude format. If using street data supplied by ArcGIS or another vendor, then the data is already in longitude-latitude format. If constructing the geobase layer manually by drawing streets in ArcMap, then the longitude and latitude coordinates must be specified.

For assistance with setting up your map in longitude-latitude format, see your ArcGIS documentation or contact ArcGIS customer support.

Labeling your map

To label your map in ArcGIS, use one of the following methods:

- **The dynamic labeling feature.** Use this feature to label all elements in a layer. For example, the geobase layer can be selected to label all streets in that layer. However, each layer must be labeled separately.
- **The Label tool** (). Use this tool to label only a few objects in a layer. For in-depth instructions, see your ArcMap documentation.

NOTE

Before using the dynamic labeling feature or the **Label** tool, set up the label properties for the layer that you want to label. For more information, see [“Setting the label properties for a layer” on page 364](#).

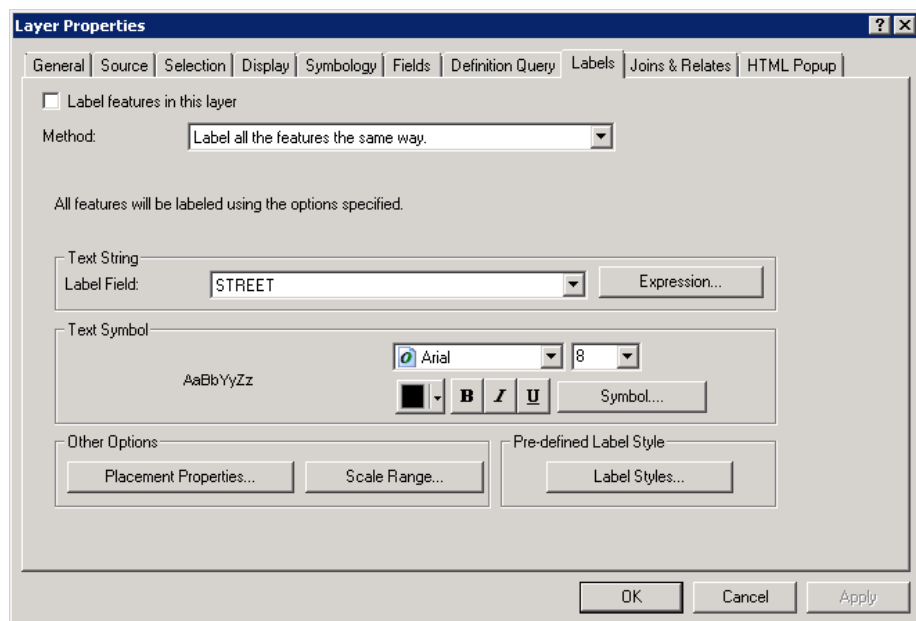
Setting the label properties for a layer

To set the label properties for a layer:

1. From the data frame’s table of contents, right-click the layer label and select **Properties**.

The Layer Properties dialog box opens.

2. Click the **Labels** tab.



3. Select the **Label Features in this layer** check box.

4. In the **Text String** area, in the **Label Field** field, select the name of the layer to label. For example, **Street**.
5. Click **OK**.

Using the dynamic labeling feature

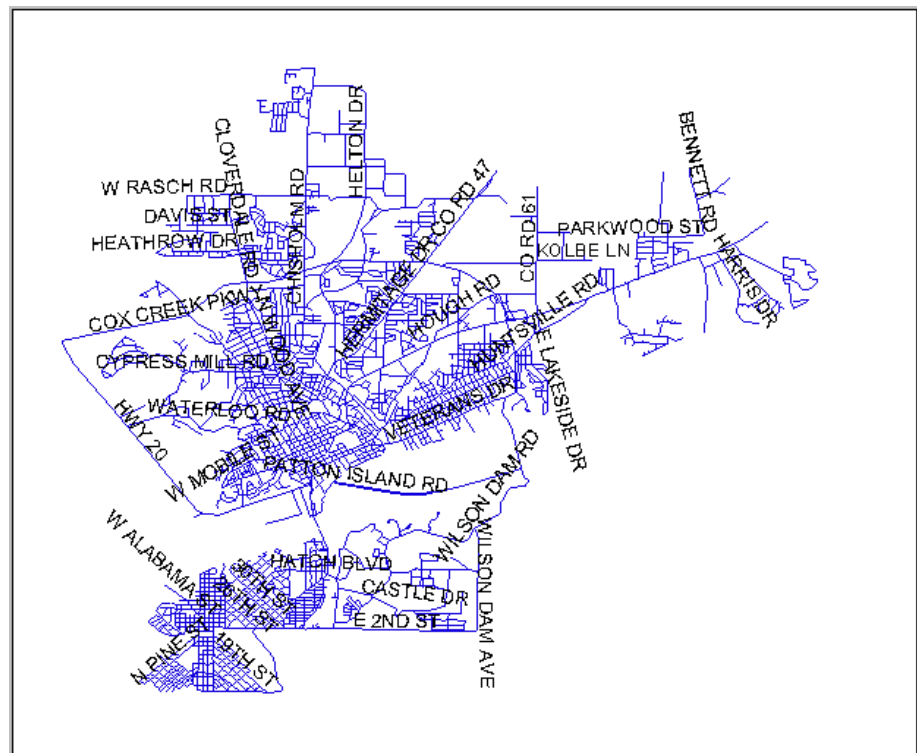
The dynamic labeling feature allows all elements in a particular layer to be labeled, and helps for quick orientation on your map.

To use the dynamic labeling feature:

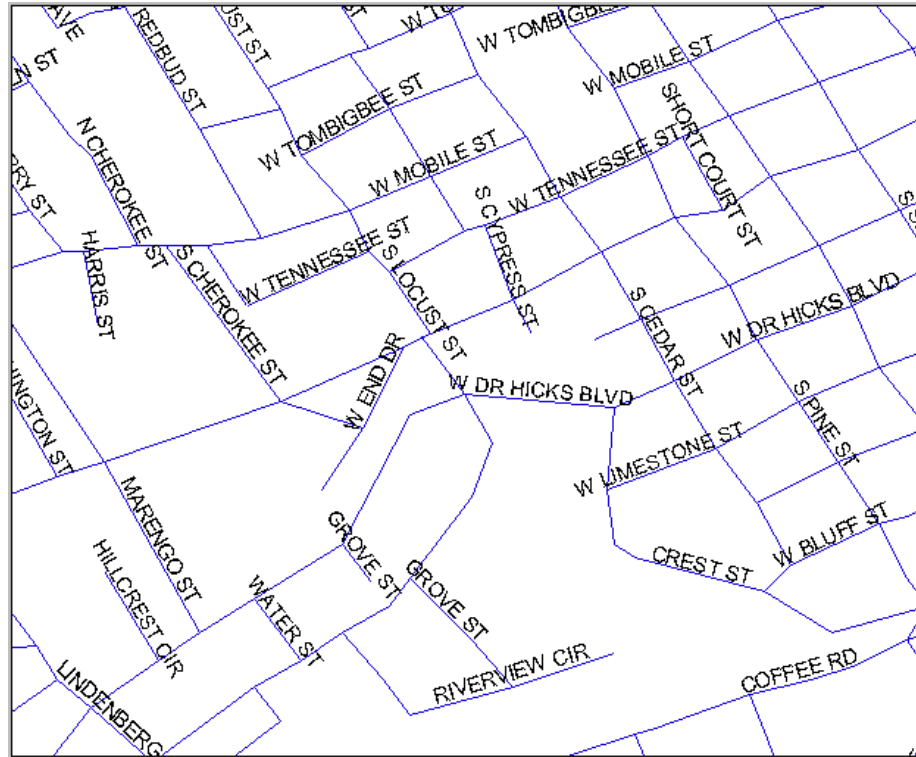
1. From the data frame's table of contents, right-click the layer being labeled and select **Label Features**.

Elements on the layer become labeled.

When using dynamic labeling, labels displays only for those elements that the map has room enough to label distinctly. For example, if ArcMap is set to label all streets, and the entire map is being displayed, then only a few streets are clearly labeled.



However, if the map is zoomed in, then the results become dramatically different.



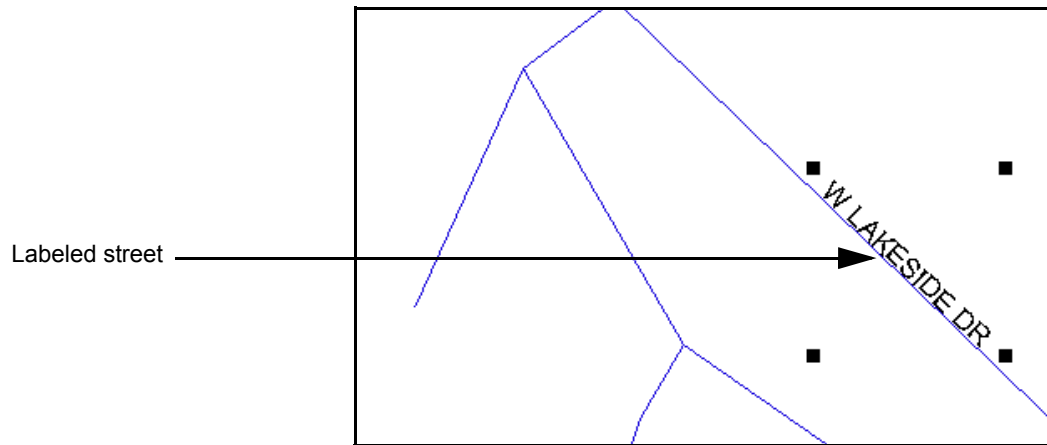
Using the Label tool


The **Label** tool allows one or more objects to be labeled on a layer.

To use the **Label** tool:

1. From the data frame's table of contents, select the layer to label.
2. From the drawing toolbar, select the **Label** tool.
3. Click the line, point, or object to label.

The label displays, as shown for the street W LAKESIDE DR.



4. To cancel the selection of the label, select the **Pointer** tool () and then click anywhere on the map.

Transferring Data From Your GIS to Spillman

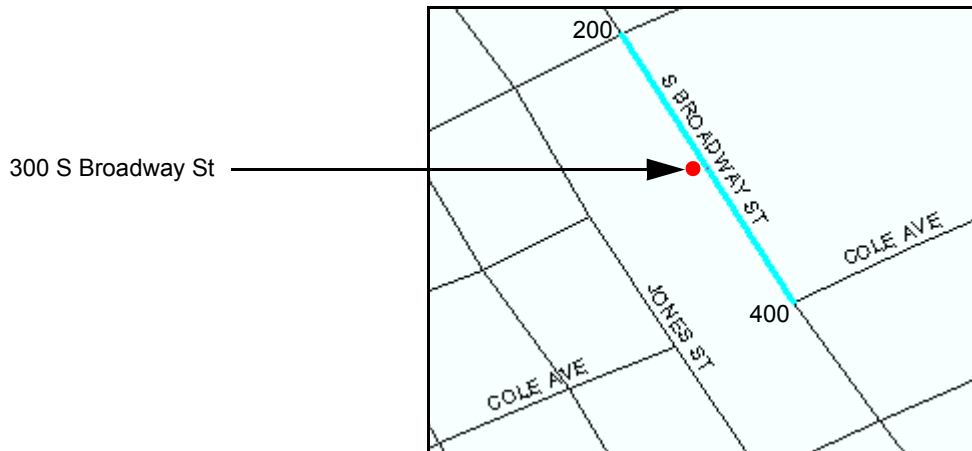
Use the following reference information when transferring data from your GIS to Spillman:

- “Retaining modified x-, y-coordinates when running gbrekey” on page 368
- “Understanding gbrekey” on page 371
- “Understanding regindex” on page 376
- “Providing access to the Geo database” on page 378
- “Understanding the gbload program” on page 379
- “Understanding the gbload -l program” on page 381
- “Turning on the geobase” on page 381
- “Setting MAPTRAIN to the Practice directory” on page 382
- “Setting MAPLIVE to the Live directory” on page 383
- “Removing the Geo database files” on page 383
- “Understanding the Geobase Address Selection window and grid-based addressing” on page 384

Retaining modified x-, y-coordinates when running gbrekey

The gbrekey program uses the beginning and ending points of the street segment to calculate the x-, y-coordinates for an address. When gbrekey calculates the location of each address, it assumes that addresses are located along the street at equal increments.

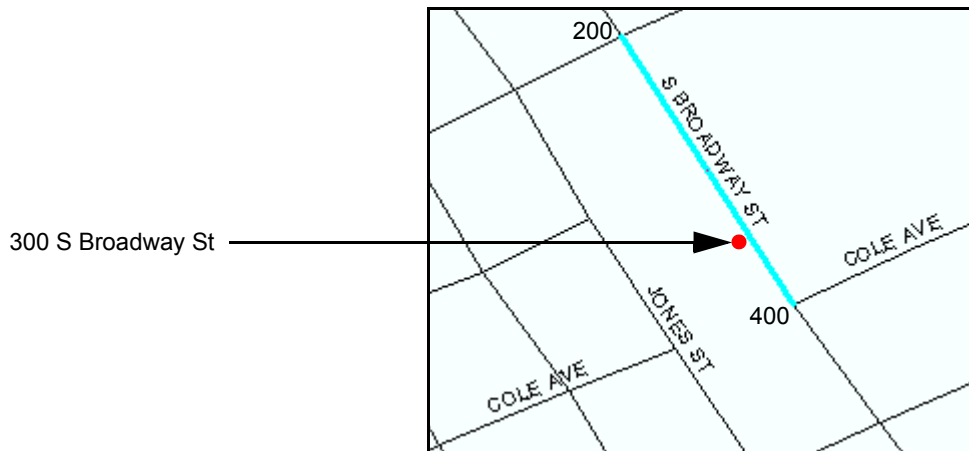
For example, if the segment S Broadway St starts at 200 and ends at 400, and gbrekey plots 300 S Broadway St on the map, then the address is calculated to be in the center of the segment, as shown in the following example.



However, the point plotted on the map may not accurately reflect the actual location of the address. To prevent the gbrekey program from recalculating the x- and y-coordinates for marked records, use the **User-Defined XY** field, located in the Geobase Address SAA Backdoor table (gbaddrx).

To mark records that have specific x- and y-coordinates entered, enter **Y** in the **User-Defined XY** field. Once a record is marked, the software does not recalculate the estimated x- and y-coordinates when gbrekey or gbload, which runs gbrekey, is run.

For example, if 300 S Broadway is located closer to the end point, as shown in the following example, then change the x- and y-coordinates of the address to reflect the actual location.



To change x-, y-coordinates of an address, use the following methods:

- Change the x-, y-coordinates in the Geobase Address SAA Backdoor table (gbaddrx). In the **User-defined XY** field, enter **y** to ensure that

gbrekey will not recalculate the address, as shown in the following example.

User-Defined XY field →

Address

Address ID: 13

Prefix:

House #: 300

Suffix:

Pre-Type:

Pre-Directional:

Street Name:

Full Street: W BLUFF ST

Post-Type:

Post-Directional:

Occupancy Type:

Occupancy Value:

Cross Street:

Intersection:

City: SFD Springfield

State: ND

User-Defined XY: Y

Coordinates: X: -31412 High Bits: -16 Y: -22689

Intersection of: W BLUFF ST & S CEDAR ST

Directions

Directions: (Only 1 or 2 lines below will be seen in CAD)

Location:

Alerts

Address Alerts	Code	Date	Review Date
HAZ	Hazardous Materials on Scene	10/24/01	10/24/03

User: sds Search for specific records INS

NOTE

The **User-Defined XY** field displays in the Geobase Address Maintenance table (gbaddr) as a display-only field.

- Load addresses from ArcGIS. When gbload is run, the software enters **y** in the **User-defined XY** field for all loaded addresses.

Understanding gbrekey

Understanding the gbrekey utility is not necessary to transfer ArcGIS data to Spillman. However, refer to this section to know more about gbrekey or when the program needs to be run after ArcGIS data is transferred to Spillman.

The Geobase module includes a utility called gbrekey that rebuilds, or recalculates, all x- and y- coordinate values of all addresses and intersections in the geobase. When gbload is run, coordinates are automatically

recalculated. However, to recalculate the coordinates manually, run `gbrekey` after setting up the geobase, adding new streets, or making other significant changes.

Although address validation routines are built into the software, `gbrekey` is included for the following reasons:

- It recalculates the coordinates of all addresses. Area searches work properly only if the coordinates of *all* addresses are recalculated.
- It recalculates intersections. Address validation routines built into the software do not recalculate intersections.
- It helps determine whether incorrect data is in the Geobase Address Maintenance table (`gbaddr`).

How gbrekey works

The `gbrekey` program uses the following methods to recalculate regular (non-intersecting) addresses and intersections:

- To recalculate the x- and y-coordinates of regular (non-intersecting) addresses, `gbrekey` reads through the Geobase Street Segments table (`gbstreet`) until it finds either a matching record in the `gbaddr` table or a record that matches the city, street name, house number, and odd/even status of the house number. It then determines the correct x, y, and x-shift values for that record. If the x-coordinate, the y-coordinate, and/or the x-shift value in the `gbaddr` record are not identical to the calculated field values, it updates the record with the calculated values.
- To find an intersection based on the `gbaddr` record, the `gbrekey` program searches the `gbstreet` table for the street with the same name as the `gbaddr` record. It finds either the matching street, or all streets containing the name specified in the `gbaddr` **Cross Street** field and checks whether any of these streets intersect the main intersection street. The following table describes the results of the search.

If <code>gbrekey</code> finds	Then it
No matching intersections	Posts a message to the log file, indicating that the address could not be found. It updates the x-shift value even if the recorded value is incorrect.

If gbrekey finds	Then it
Only one matching intersection	Checks the house number , x , y , and x-shift fields of the gbaddr record. If any of the field values are incorrect, then gbrekey updates the record with the correct values.
More than one matching intersection	Posts a message to the log file, indicating that it could not resolve the address. It updates the x-shift value even if the recorded value is incorrect.

- If information in the **Street** and **Cross Street** fields of the **gbaddr** record is the same, and the **geosistr** parameter is *not* set to **True**, then **gbrekey** posts a message to the log file, indicating that the **gbaddr** record is invalid. Streets can intersect themselves only when the **geosistr** parameter is set to **True**.

Running gbrekey

To run **gbrekey**:

1. At the Spillman command line, enter **gbrekey**.

The **gbrekey** program recalculates the x- and y-coordinates of the geobase data. When finished, the following message displays: Do you want to update the coordinate and shift fields in GBADDR? (N)

2. Click **Yes** to begin the **gbrekey** function. Otherwise, click **No** to cancel the **gbrekey** program and return to the Main menu.

The program checks and, if necessary, updates each record in the Geobase Address Maintenance table (**gbaddr**), starting with the first record. After reading every 100 addresses, the program displays the number of records read.

When **gbrekey** finds any **gbaddr** record that it cannot resolve, it records the record number and the reason the record cannot be resolved in the **gbrekey.log** file.

The program can be canceled at any time. Any changes already made will be saved.

3. At the Spillman command line, enter **sh** to shell out to UNIX.
4. Use a text editor to check the **gbrekey.log** file for errors, and then return to Spillman and correct any errors in the **gbaddr** table. For more information, see [“Error messages from gbrekey” on page 375](#).

Summary results from gbrekey

After checking all gbaddr records, gbrekey displays the following summary information:

- Number of addresses (gbaddr records) checked.
- Number of addresses not checked. The gbrekey utility cannot check a record that is locked by another user.
- Number of addresses updated.
- Number of addresses that an exact match could not be found. Even if gbrekey cannot find an address, it updates the record's x-shift value.
- Number of addresses that could not be resolved because more than one exact match was found. Even if gbrekey cannot resolve an address, it updates the record's x-shift value. The Geobase module uses the x-shift value for Between searches and to determine intersections.
- Number of other significant errors that occurred. Look at the log file to determine which errors occurred.

When finished, the gbrekey utility displays the following message: Please check the log file "gbrekey.log" for more information. Finished recalculating addresses in GBADDR.

After displaying the summary results, gbrekey sends the summary to the log file, and stamps the file with the time, date, and indication of how gbrekey ended. For example, whether the utility finished executing or was canceled.

Error messages from gbrekey

The following table describes common error messages gbrekey might return and what solutions may fix the problems. The gbrekey utility posts some messages to the screen and others to its log file, which is created in the directory from which you logged on to Spillman.

Error message	Explanation/Solution
Address xxxx not found	<p>The gbstreet record containing the address xxxx. cannot be found. Do the following:</p> <ol style="list-style-type: none"> 1 Use the addr utility to confirm the software cannot find the address. 2 If the address cannot be verified, then check gbstreet to see if the street segment exists and if the house number exists on that segment. 3 In gbstreet, click List to be sure multiple entries do not exist for that house number.
Cannot open log file "gbrekey.log" in current directory	Make sure Spillman is running from a directory that you have write privileges to. If a gbrekey.log file exists in the current directory, write privileges are required for that directory.
Could not lock record #xxxx at position xxxxxx	If a gbaddr record is modified while gbrekey is run, then gbrekey cannot check the record because it is locked by another user. Run gbrekey again when the record is not locked.
Could not lock record #xxxx at position xxxxxxxx - record was deleted	Ignore this message if it displays only infrequently. If it displays often, contact Spillman Customer Support.
Error: Intersection xxxx is invalid; main and cross streets are identical	The gbaddr record is invalid because the main street and the cross street are the same and the geosistr application parameter is set to False , prohibiting self-intersecting streets. Check the intersection. If the intersection is incorrect, fix it. If the intersection is correct, set the geosistr application parameter to True .
Intersection xxxx not found	<p>The intersection specified by the gbaddr record cannot be found. Do the following:</p> <ol style="list-style-type: none"> 1 Use the addr utility to verify that the software does not recognize the intersection. 2 If addr does not find the intersection in the exact match search, use addr to see whether the software recognizes each of the intersecting street segments. 3 If one of the segments does not verify, see if the street segment exists in gbstreet and whether the x- and y-coordinates, house numbers, and city value are correct. 4 Check gbstreet to see if the streets <i>should</i> intersect.
Intersection xxxxx unresolved - duplicates found	The gbaddr record is referring to any of multiple intersections. Either a self-intersecting street exists or a street intersects another street twice. Check that the specific x- and y-coordinates and house number fields in gbstreet are correct. The gbrekey program still updates the x-shift (high bits) field.

Error message	Explanation/Solution
Error: Could not update record xxxxxx (err=2, table=table name)	<p>The specified record cannot be corrected because a duplicate record exists in gbaddr (two records have the same street name, house number, suffix, and city). Search for and examine the duplicate record in the Geobase Address SAA Backdoor table (gbaddrx), and then do the following:</p> <ul style="list-style-type: none"> • If incorrect data was entered in the record, modify the record and run gbrekey again. • If the record is a true duplicate (correct data was entered), then delete it and rerun gbrekey.
This program cannot be run without geobase	Make sure the geobase application parameter is set to on .

Understanding regindex

Understanding the regindex utility is not necessary to transfer ArcGIS data to Spillman. However, refer to this section to know more about regindex or when the program needs to be run after ArcGIS data is transferred to Spillman.

The Geobase module includes a script called regindex, which helps the software find cross streets quickly by changing the size of the grid squares used when searching for cross streets.

When gload is run, the program automatically runs regindex. After setting up the geobase, run regindex again whenever new street data is loaded into the gbstreet table in Spillman without running gload.

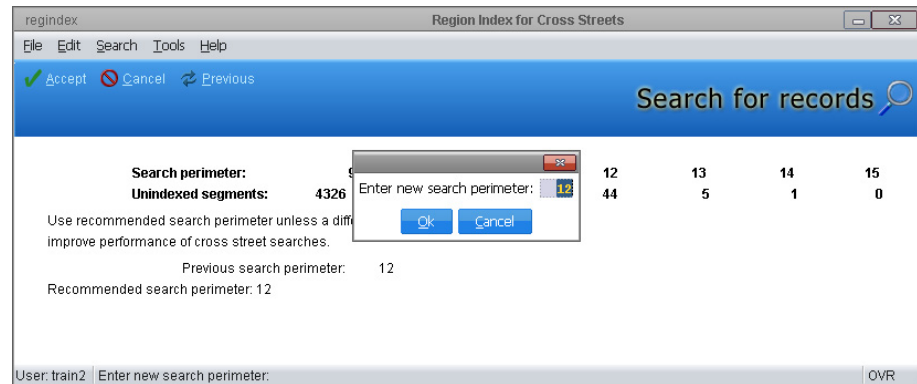
Before running regindex, set the gbcross application parameter to **True** so cross streets will be displayed for addresses entered on certain CAD screens, and then run regindex.

Running regindex

To run regindex:

1. At the Spillman command line, enter **regindex**.

The Region Index for Cross Streets screen opens with a prompt box, asking for verification to search the map perimeter with the value displayed.



NOTE

If any user is modifying a `gbstreet` record when `regindex` is run, then the screen displays the message: Some segments are locked by another user. Run `regindex` again later. Run the script later.

- Click **OK** to accept the recommended search perimeter.

The `regindex` script changes the size of the grid squares used when searching for cross streets to help find cross street more quickly. When finished, the following items display:

- The number of indexed street segments (segments that span no more than two squares horizontally or vertically)
- The number of unindexed segments (segments that span more than two squares horizontally or vertically)
- The location of the log file the tool creates

If `gbcross` is set to **False**, then the `regindex` utility asks whether to enable cross street display.

If `gbcross` is set to **True**, then the `regindex` utility notifies when it is finished updating the segment indices.

- Click **Yes** or **OK**.

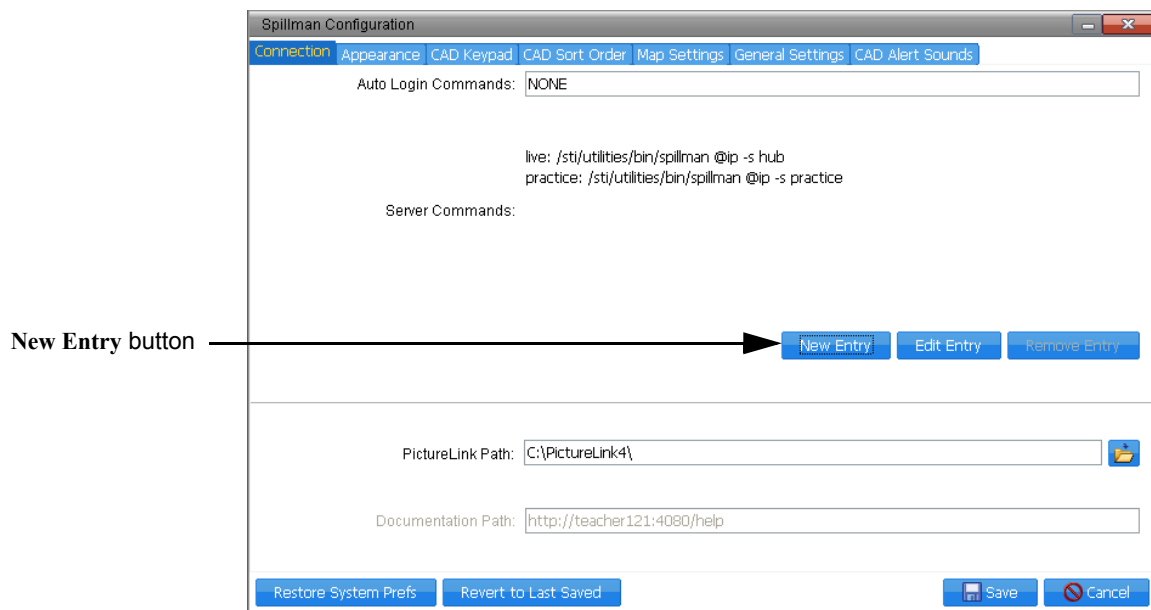
Providing access to the Geo database

A Spillman Technologies trainer usually sets the path to the Geo database. However, if the path to the Geo database is not defined, you can set it. The Geo database is created `gbload` is run.

To set the path to the Geo database:

1. From Spillman, select **File > Configure**.

The Spillman Configuration screen opens.



2. Click the **Connection** tab.
3. In the **Server Commands** area, click **New Entry**.
The Edit Server Command dialog box opens.
4. In the **Configuration Name** field, enter **Geobase**.

5. In the **Spillman Server Command** field, enter the path `/usr/local/bin/Spillman @ip -s geo`, as shown in the following example.

The screenshot shows a dialog box titled "Edit Server Command". It has four text input fields: "Configuration Name" (containing "Geobase"), "Spillman Server Command" (containing "/usr/local/bin/Spillman @ip -s geo"), "Webservices Database" (empty), and "Message Center URL" (empty). At the bottom right, there are "Ok" and "Cancel" buttons.

6. Click **OK** to close the dialog box.
7. Click **Save** to save changes and close the Spillman Configuration screen.
8. Exit Spillman.

Understanding the gbload program

When the gbload program is run, it performs the following tasks in the order given to simplify the loading of your ArcGIS data into Spillman.

- Runs the `validate.pl` utility, which does the following:
 - Creates the Geo database in the `$FORCEDIR/util/geobase/dat` directory.
 - Copies the following geobase tables from the Live database to the Geo database:

Geobase tables transferred from the Live database to the Geo database	
<code>apagency.dat</code>	<code>apagency.idx</code>
<code>apcity.dat</code>	<code>apcity.idx</code>
<code>gbabbr.dat</code>	<code>gbabbr.idx</code>
<code>gbadalrt.dat</code>	<code>gbadalrt.idx</code>
<code>gbaddr.dat</code>	<code>gbaddr.idx</code>
<code>gbdirect.dat</code>	<code>gbdirect.idx</code>

- Copies the Application Parameters table (`apparam`) from the Practice database into the Geo database.
- Copies the geobase application parameters from the Live database into the Geo database.
- Validates the data in your ArcGIS text files against the data in the Geo database (copied from the Live database).

CAUTION

Do not manually run the `validate.pl` utility, as it may compromise your data.

- Generates a temporary file, and exports values from the **Street name**, **City code**, **Segment starts at Number**, and **Dirnum** fields in the `gbstreet` table to the temporary file.
- Runs the `geoprep2.ux` script, which converts the `*.out` files from ArcGIS to `*.txt` files.
- Runs the `newtrn2.ux` script, which creates new, empty tables in the Geo database for geobase files transferred from ArcGIS. It also creates a `gbload.log` error log.

CAUTION

Do not manually run the `newtrn2.ux` script, as it may compromise your data.

- Runs the `geoload.ux` script, which loads the ArcGIS geobase data files into the Geo database. When finished, the following message displays: `New training files created.`
- This script appends any errors to the `gbload.log` error log. When reviewing the `*.txt` files to resolve `geoload.ux` errors, mentally add 1 to the line number to account for the header line.

CAUTION

Do not manually run the `geoload.ux` script, as it may compromise your data.

- Updates the **Dirnum** field for each street segment record in the temporary file.
- Runs the `gbrekey` utility, which rebuilds all x- and y-coordinate values for all addresses and intersections in the geobase. If the x-, y-values need to be recalculated after `gbload` is run, `gbrekey` can be run by itself from Spillman.
- Runs the `gbsndx` utility, which rebuilds the soundex keys of all records in the Alias Street Names table (`gbsaka`). If soundex keys need to be rebuilt `gbload` is run, `gbsndx` can be run by itself from Spillman.

- Runs the `regindex` utility, which helps the software find cross streets quickly. If `regindex` needs to be run after `gblload` is run, it can be run by itself from Spillman.

Understanding the `gblload -l` program

When the `gblload -l` program is run, the following tasks are performed in the order given:

- Runs the `trn2liv2.ux` script which loads your map data into the Live database.

CAUTION

Do not manually run the `trn2liv2.ux` script, as it may compromise your data.

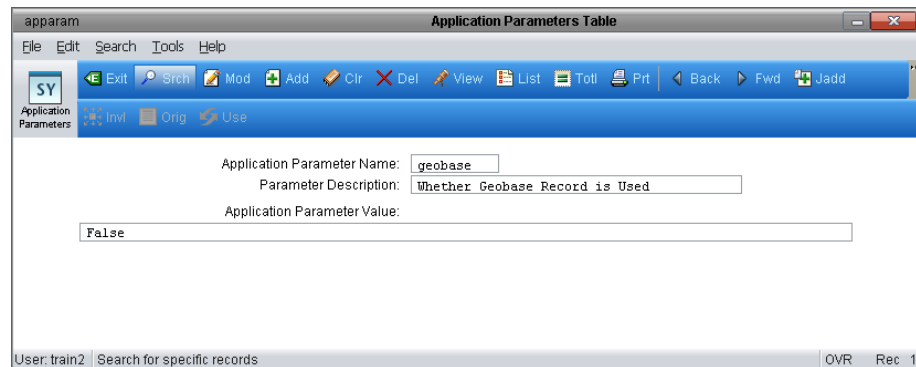
- Creates backup files of your Live geobase tables.
- Runs the `gbrekey` utility, which rebuilds all x- and y-coordinate values for all addresses and intersections in the geobase. If the x-, y-values need to be recalculated after `gblload -l` is run, then `gbrekey` can be run by itself from Spillman.

Turning on the geobase

To turn on the geobase in Spillman:

1. Log on to the Live database.
2. At the Spillman command line, enter **apparam**.
The Application Parameters Table screen opens.
3. Click **Srch**.
4. In the **Application Parameter Name** field, enter **geobase**.
5. Click **Accept**.

The geobase application parameter record opens.



6. Click the **Mod** button.
7. In the **Application Parameter Value** field, change the value to **True**.
8. Click **Accept** to save the change.
9. Exit Spillman, and then restart the software to ensure the new settings are recognized.

Setting MAPTRAIN to the Practice directory

MAPTRAIN tells the Spillman software the directory in which to store the Spillman data files created.

To set MAPTRAIN to the Practice directory:

1. From the Practice database, enter **sh** to shell out to UNIX.
2. From the `$FORCEDIR/util/geobase` directory, enter **echo \$FORCEDLIST** to see the directory(ies) specified by the MAPTRAIN environment variable.

If multiple directories are listed, separated by a colon (;), set MAPTRAIN only to the directory containing the Practice geobase data files (normally, FORCEDLIST).

3. Add the following commands to the Spillman script, substituting the appropriate path:

```
MAPTRAIN = full path of the directory containing
the geobase .dat and .idx files
export MAPTRAIN
```

For example, if the Practice geobase data files are located in the `/sds/force/practice` directory, then the following commands are added to the Spillman script:

```
MAPTRAIN = /sds/force/practice export MAPTRAIN
```

Setting MAPLIVE to the Live directory

MAPLIVE tells the Spillman software to transfer the geobase files from the Geo database to the Live database.

To set MAPLIVE to the Live directory:

1. At the Spillman command line, enter `sh` to shell out to UNIX.
2. In the Spillman script, add the following commands, substituting the appropriate path:

```
MAPLIVE = full path of the directory that contains  
the geobase *.dat and *.idx files export MAPLIVE
```

For example, if the geobase data files are located in the `/sds/force/dat` directory, the following commands are added to the Spillman script:

```
MAPLIVE = /sds/force/dat export MAPLIVE
```

Removing the Geo database files

Keep the Geo database files, if possible. If problems arise with the geobase, Spillman Customer Support can use these files to see what information ArcGIS is transferring to the Spillman software. The software replaces these files with new files each time `gbload` is run.

However, it may be necessary to remove the Geo database files, such as there is inadequate space on your agency's computer. If the Geo database files need to be removed, shell out to UNIX and run `geoclean.ux`.

The `geoclean.ux` script removes all of the `*.txt`, `*.TXT`, `*.out`, `*.OUT`, `*.mif`, `*.MIF`, `*.mid`, and `*.MID` files that are no longer needed. When finished, the following message displays: `Geoclean - removing all data files.`

Understanding the Geobase Address Selection window and grid-based addressing

When an address search is performed in Spillman, and grid-based addressing is being used, the following factors determine which addresses display in the Geobase Address Selection window:

- **Software setup.** The `gbmxstsl`, `gbminspl`, `gbminsnd`, `soundex`, and `gbprefix` application parameters affect which addresses and the number of addresses the software displays. For more information about geobase application parameters, see [“Modifying the Application Parameters for the Geobase Module” on page 51](#).

The way the Street Part Abbreviations table (`gbabbr`) is set up also affects the address list.

NOTE

Setting the `gbmxstsl` application parameter determines the maximum number of addresses displayed in the Geobase Address Selection window. However, if more *exact* address matches are found than `gbmxstsl` allows, then the software displays them for accuracy. Exact address matches are addresses whose house number and street name match the search address. An exact match does not necessarily mean the match is the desired address. The city must also match the city of the search address.

- **Search address.** The actual address a user enters in Spillman can affect which addresses are displayed. If prefixes are used, then the house number must be included. The entire street address, including prefix, house number, and street name, is used in the search. If a house number is not entered, then the first word is considered invalid. Valid prefixes must start with a direction identifier (N, S, E, W), which can contain up to 3 numeric characters and end with a direction identifier. For example, N125 or N985W.

The software performs the following three phases in determining which addresses to display in the Geobase Address Selection window:

- **Phase 1.** The software searches the Geobase Street Segments table (`gbstreet`) for matching addresses. See [“Phase 1” on page 385](#).
- **Phase 2.** The software searches the Alias Street Names table (`gbsaka`) for matching addresses and for addresses that match the spell-alike requirements, as set by the `gbminspl` application parameter. See [“Phase 2” on page 385](#).

- **Phase 3.** The software searches the Alias Street Names table (gbsaka) for possible street name matches based on advanced spell-alike searching and soundex requirements, as set by the gbminsnd application parameter. See “Phase 3” on page 386.

If the software cannot find matching addresses in Phase 1, then it automatically moves to Phase 2. If matches still cannot be found, then the software automatically moves to Phase 3.

If matching addresses are found in a preceding phase, then the candidates are displayed and the search stops without continuing to the next phase. To make the software perform the other phases, even though matches are found, click the **Alias & Soundex Search** button if it is active in the Geobase Address Selection window, or click the Lookup button (Ctrl+E).

Phase 1

- Records in the Street Part Abbreviations table (gbabbr) are used to determine all possible variations of the abbreviations in the search address, and whether any abbreviations need to be translated to a different value. For example, a gbabbr record is set to translate all occurrences of the word AVENUE to the preferred abbreviation of AVE.
- Exact matches are searched for in the Geobase Street Segments table (gbstreet). All variations of the address are used based on the abbreviations. For example, if a gbabbr record is set to *not* translate the abbreviation AVENUE to the preferred form AVE, and the address **W245N87 10th Avenue** is searched on, then the software searches for W245N87 10th Avenue and W245N87 10th Ave.

If one or more addresses are found, then all exact matches display in the Geobase Address Selection window, and the following message displays at the bottom of the Spillman command center: End of exact matches.

Phase 2

- The searches for the following in the Alias Street Names table (gbsaka):
 - Alias names that exactly match by spelling.

- Aliases whose first x characters match the street name, where the value x is the value set in the `gbminspl` application parameter.

If any candidates are found, then they display in the Geobase Address Selection window, and the following message displays at the bottom of the Spillman command center: `End of exact matches.`

NOTE

If a house number is entered as part of the address, then it must be within the actual street's specified range. This rule also applies to Phase 3.

Phase 3

The following actions are performed alternately:

- One word is removed at a time from the street name, and the Alias Street Names table (`gbsaka`) is checked for the remainder of the street name to see if there are any alias addresses whose first x characters match the street name. The value x is the value listed in the `gbminspl` application parameter. This process repeats until no words remain in the street name.

NOTE

When spell-alike matches are searched for, and the street name begins with a number, the software always searches for the entire number regardless of the `gbminspl` application parameter value.

- The Alias Street Names table (`gbsaka`) is searched for addresses whose first x characters of the soundex value match the soundex value of the street name. The value x is the value listed in the `gbminsnd` application parameter.

This search starts with the entire street name, and then checks whether the soundex requirements are met by any alias addresses. One word is removed at a time from the address, and the soundex check is repeated on the remainder of the street name until no words remain.

The following table illustrates each search phase of the address
N48W55 South Vineyard Road.

Phase	Table	Phase step	Address search component	Exact match	Spell-alike	Sound-alike
1	gbstreet	1	South Vineyard Road	X		
2	gbsaka	1	South Vineyard Road	X		
		2	South Vineyard Road		X	

Phase	Table	Phase step	Address search component	Exact match	Spell-alike	Sound-alike
3	gbsaka	1	N48W55 South Vineyard Road		X	
		2	South Vineyard Road			X
		3	Vineyard Road		X	
		4	N48W55 South Vineyard Road			X
		5	Road		X	
		6	Vineyard Road			X
		7	Road			X

NOTE

If a street address is entered without a prefix or house number, then the software cannot provide a clear search on the address. The Geobase Address Selection window displays a list of available prefixes for the street entered.

TIP

When verifying addresses, use the following tips:

- Talk to dispatchers to discover areas where address problems in the past have been experienced, and then check addresses from these areas.
- Check addresses that use street aliases.
- Check for missing addresses by using addresses from a source other than your map, such as the phone book or tax records.
- Verify that addresses on zone boundaries are in the correct zone.

Glossary

access	To open or display a program or table by giving the software a command. For example, to access the Names table in the Spillman software, the table's program name (<code>names</code>) is entered at the Spillman command line. After the appropriate screen opens, a variety of functions can be performed within the table, depending on your security clearance.
addr	The Spillman utility used to verify street coordinates and to determine coordinates of minor, surrounding streets. When <code>addr</code> is run to check an address, the software finds the address or displays a list of possible matches, including the city code, street address, and absolute x- and y-coordinates for each address. The match can be confirmed or selected from the list. The <code>addr</code> utility can be run from any menu prompt.
alias street name	Any name other than the preferred street name that can be used to identify a street. Alias names are also called alternate names.
Alias Street Names table	See “gbsaka” on page 393 .
alphanumeric field	A field where any type of character, including letters, numbers, and special characters can be entered.



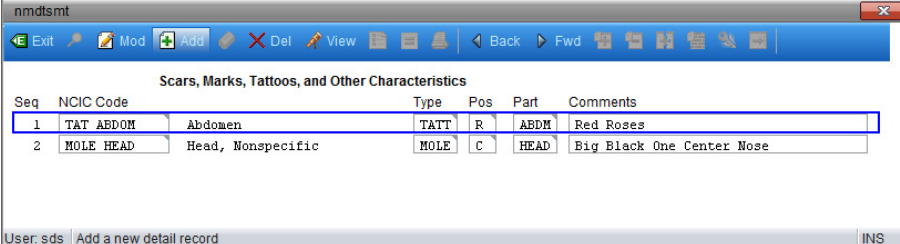
alternate abbreviation	Any abbreviation other than the preferred abbreviation that may be used to define street directions, street parts, or street names in the geobase. In the Spillman software, preferred and alternate abbreviations are defined in the Street Part Abbreviations table (<i>gbabbr</i>).
apagency	The Agency Codes table in the Spillman software. Before setting up the geobase, use this table to assign codes for all agencies in your jurisdiction.
apcity	The City Codes table in the Spillman software. Before setting up the geobase, use this table to assign codes for all cities in your jurisdiction.
apstate	The State and Country Codes table in the Spillman software. This table specifies the code to be used for each state. The standard two-character abbreviation for each state is used.
arc line	A line that, unlike a true line segment, has anchor nodes in addition to beginning and ending nodes. If using ArcGIS, arc lines do need to be redrawn.
ArcGIS	A Geographic Information System package used to create and maintain an agency's geobase. ArcGIS is a licensed trademark of Environmental Systems Research Institute, Inc (ESRI). ArcGIS contains ArcMap and ArcCatalog.
Attributes table	The component of a theme (layer) in ArcGIS containing the map's data in readable, tabular form. The map is the other component of the layer.
Auto-label	A feature in ArcGIS that automatically labels information in the selected theme. Select Theme > Auto-label .
central origin point	Any point, such as a street address, mile marker, landmark, or other focal point, used as the starting point to base coordinates. Coordinates for all streets are based on their distance from this central origin point. The central origin point is defined in the Geobase Origin Points table (<i>gborigin</i>) in Spillman when setting up the geobase.
central tables	The Names, Vehicle, Property, Wanted Persons, On-Call Scheduling, Resource, Dissemination, and Racial Profiling tables form the heart of the Law Enforcement system, providing information to many other tables in the software. See “Hub” on page 395 .



coded field	A field that accepts only certain entries, called codes. Codes are listed in a code table the field references.
common place	<p>Any commonly referenced place or area in your jurisdiction. Common places can include area landmarks, frequented businesses, high crime areas, and other well-known places and areas. The method used to enter common places depends on the software used to set up the geobase:</p> <ul style="list-style-type: none">▪ If the geobase is set up in the Spillman software, enter common places in the Alias Street Names table (<i>gbsaka</i>).▪ If the geobase is set up in ArcGIS, create a separate table for each type of common place. Index and geocode the table to plot the common places on the map, and then run the Alias Update tool to add the information to the alias.dbf table.
coordinate	A means of measuring the distance between a particular place or area on a map and its origin point. Relative coordinates are used in relation to a particular area's origin point, which can be a central or secondary origin point. Absolute coordinates are used in relation to the central origin point.
Create Text Files	A custom tool written by Spillman Technologies, Inc., that converts ArcGIS data into text files. After running the Create Text Files tool, load the text file containing the ArcGIS data into the Spillman database.
Create Zones	A custom tool written by Spillman Technologies, Inc., that creates the <i>gbzone</i> , <i>tbzones</i> , and Master Values tables. The Create Text Files tool uses the information in these tables when converting ArcGIS data into text files.
Ctrl	The Control key, located in the lower left and right side of the keyboard. Hold down the Ctrl key and pressing a character key to give a particular command to the software. For example, to delete selected characters, press Ctrl+D (hold down the Ctrl key and press the D key once).
database	The collection of information (data) your agency entered into the computer.
default	The entry or setting value the software assumes to use unless otherwise specified. The default value can usually be overwritten. For example, when printing a report, the software sends the report to a default printer. However, the default value can be overwritten to display the report on a screen instead.

detail field

A field displaying part of a detail file. Click the **Detail** button (Ctrl+N) in a detail field to open a detail window where detail records in the rest of the file can be added, viewed, or modified. For example, the following detail window shows the SMT details for a Name record.



The screenshot shows a window titled 'nmdsmt' with a menu bar (Exit, Mod, Add, Del, View) and navigation buttons (Back, Fwd). The main area displays a table titled 'Scars, Marks, Tattoos, and Other Characteristics' with columns: Seq, NCIC Code, Abdomen, Type, Pos, Part, and Comments. Two records are visible: 1. TAT ABDOM, Abdomen, TATT, R, ABDOM, Red Roses; 2. MOLE HEAD, Head, Nonspecific, MOLE, C, HEAD, Big Black One Center Nose. The bottom status bar shows 'User: sds' and 'Add a new detail record'.

Seq	NCIC Code	Abdomen	Type	Pos	Part	Comments
1	TAT ABDOM	Abdomen	TATT	R	ABDOM	Red Roses
2	MOLE HEAD	Head, Nonspecific	MOLE	C	HEAD	Big Black One Center Nose

device

A piece of equipment. For example, a printer, modem, or backup drive.

display-only field

A field that can be viewed but not altered. An entry can be entered in a display-only field only to perform a search. The cursor usually skips display-only fields.

distance-based addressing

A method of addressing where each address is based on the number of increments from the beginning of the road to the address.

editor

See [“text editor” on page 399](#).

file

Stored information in a specific location. Either you or the software can create a file from entries are made in various fields. For example, when information is entered in the **Comments** field in the Names table (`names`), the software creates a text file accessible through the **Comments** field.

Often, part of the information in a **Comments** field displays on the screen in a detail or text field. Depending on the file, the entire file can be accessed through a detail or text field or by selecting an option from the toolbar.

format

The way information is ordered and displayed in the system.

function keys

The keys on your keyboard that are not letter, number, or character keys that signal the software to perform specific actions. Function keys are usually labeled F1, F2, F3, and so forth, and appear in a row along the top of the keyboard. Other functions keys include Lookup, Cancel, and Mail.



gbabbr	The Street Part Abbreviations table in Spillman used to define all abbreviations, preferred and alternate, that can be used in an address to refer to street directions, street parts, or street names. Use the <code>gbabbr</code> table to determine whether alternate abbreviations can be used.
gbaddr	A program that allows directions and special instructions to be entered for a particular address or area, and is accessed through the <code>gbaddr</code> table.
gbaddrx	A program that allows the <code>gbaddr</code> table to be edited, and is accessed through the <code>gbaddrx</code> table.
gbdirect	The Geobase Directions Table table in Spillman containing directions information for a particular address or area in the geobase. For example, the best route to take to get to an address. The <code>gbdirect</code> table is linked to the appropriate street segment record in the <code>gbstreet</code> table.
gbload	A program that runs all the scripts necessary to load ArcGIS data into the Spillman Practice database. These scripts include <code>savetrn2.ux</code> , <code>newtrn2.ux</code> , <code>geoload.ux</code> , <code>gbrekey.ux</code> , <code>gbsndx.ux</code> , and <code>regindex.ux</code> .
gbload-l	A program that runs all the scripts necessary to load ArcGIS data into your agency's Live Spillman database. These scripts include <code>savetrn2.ux</code> , <code>newtrn2.ux</code> , <code>geoload.ux</code> , <code>gbrekey.ux</code> , <code>gbsndx.ux</code> , and <code>regindex.ux</code> .
gborigin	The Geobase Origin Points table in Spillman used to define the central origin point and all secondary origin points during geobase setup. This table contains the assigned code for the origin point, the point's name, and the distance along the x and y axis of the central origin point and any secondary origin points.
gbrekey	The Spillman utility used to rebuild the x- and y-coordinates of all records in the <code>gbaddr</code> table after any changes are made to the geobase, and after the geobase is transferred from the Practice to the Live database.
gbsaka	The Alias Street Names table in Spillman containing all alias names for each street and all common places. Use this table to enter or modify alias street names and common places.



gbsndx	The Spillman utility used to rebuild the soundex keys of all records in the <code>gbsaka</code> table after any changes are made to the geobase, and after the geobase is transferred from the Practice to the Live database.
gbstname	The Geobase Street Names table in Spillman containing the names of all streets in the geobase. The software enters the preferred street names and street aliases in this table when street segments are entered in the <code>gbstreet</code> table. Use the <code>gbstname</code> table to modify street names.
gbstreet	The Geobase Street Segments table in Spillman used to enter individual street segments into the geobase. Each record in the <code>gbstreet</code> table shows the segment ID number generated by the software, the preferred name for that street segment, all alias names for that segment, the city code, the origin code, the street side (odd, even, or both), the Directions Number (if any directions information is entered), the beginning and ending x -and y-coordinates, the house number, and all zones.
gbzone	The Street Zone Detail window accessed from the Geobase Street Segments table (<code>gbstreet</code>) where zones for each street segment can be entered to cover odd, even, or both sides of the street.
geobase	The database containing street and address information for a particular jurisdiction. This information includes specific street addresses, alternate or alias names for streets, common places in the area, intersections, zones, and the agency that will respond to law, fire, EMS, and miscellaneous occurrences at each address.
geobase theme	The ArcGIS theme or layer containing the street map and the street information table (Attributes table). The geobase theme contains information for each street, including the street name and address ranges for each side of the street.
geocode	To use the street addresses in ArcGIS from your alias tables to plot location points on your map. Your geobase project can be geocoded.
geocoding service	The utility in ArcGIS used to define paths to reference data and to specify how the software reads address information and creates output. For example, the geocoding style (format), which determines the information to reference from the geobase Attributes table, can be selected.



grid-based addressing	A method of addressing where each address is based on its relationship to a grid of the area. Each address can be determined by finding the east-west coordinate (x) and the north-south coordinate (y) on the grid. Do not confuse grid-based x-, y-coordinates with longitude and latitude x-, y-coordinates.
hardware	The physical pieces of a computer. For example, the main computer and any printers, modems, cables, and power cords. Computer hardware and software are like a VCR (hardware) and videotape (software). Both hardware and software are required for a usable system.
Hub	The module containing the Names, Vehicle, Property, Wanted Persons, On-Call Scheduling, Racial Profiling, and Resource tables, which are central to the Spillman software.
involvement	A link between related records in the Spillman software. A record in a Spillman table may have a list of involvements. For example, a single Name record may have an involvement to a Law Incident record, an involvement to a Vehicle record, an involvement to another Name record, and so forth.
key-in mode	See “mode” on page 395 .
login	A word or name users must enter to gain access to the software. Each user usually has a personal login. In addition, users must enter a password on most systems.
MAPLIVE	The UNIX path that tells the system to transfer the geobase files from the Practice database to the Live database.
mode	A method of entering data. The mode designates the type of entry to make. For example, when a Spillman screen, such as the Names screen, is in Add mode, information can be entered to add a record in the current table. The mode can also indicate how the data will display on the screen, as described in the following examples:



- When the screen is in Overstrike mode, the data entered replaces any existing data in that field.
- When the screen is in Insert mode, the data entered is inserted at the cursor location. Existing data remains intact unless deleted by a user.

module A group of computer programs in the Spillman software collected under one name, which helps an agency perform all tasks required for one aspect of public safety. For example, the Geobase module, the Computer-Aided Dispatch (CAD) module, and the Traffic Information module.

Name block A group of related fields displayed in the Names table (names). Name blocks are usually display-only fields. For example, the following name block is from the Traffic Citation screen.

Defendant									
Numbr:		<input type="text" value="60"/>							
Last:	Gifford			Fst:	Shirley		Mid:	Craft	
DOB:	09/27/63		SSN:	419-06-6790		Adr:	5202 W Russellville Rd		
Race:	W	Sx:	F	Tel:	(256) 555-2789		City:	Russellville	ST: FL ZIP: 35654
DLN:	9Z65202			DLS:	FL				

noise Any unwanted signal that distorts transmission and results in data errors.

numeric field A field that accepts only numbers and a few special characters, such as a decimal point.

options The alternative actions available to perform. Depending on your security clearance, different options may display on the screen toolbar.

origin code A three-character, alphanumeric code that is assigned in the gborigin table for the central origin point and any secondary origin points in the geobase.

parameters Values that establish boundaries. For example, in a report program, parameters are entered to specify which records to include in a report. Records can be specified within a certain date range or involve a particular officer.

polyline A line with multiple nodes, as well as a beginning and ending node. Whereas, a true line segment has only beginning and ending nodes. Polyline are not allowed in the geobase.



preferred abbreviation	The abbreviation used by the geobase to define street directions, street parts, or street names. Before setting up the geobase, enter the preferred abbreviations in the Street Part Abbreviations table (<code>gbabbr</code>).
preferred street name	The name the geobase uses to identify a particular street.
program	A coded set of instructions that are written in a particular computer language, which tells the computer to perform certain actions so you can accomplish a particular task. For example, selecting the Prt button activates a program that sends a copy of the displayed record to the assigned printer.
program name	The name assigned to each menu, table, report, and program in the system. For example, the program name used to access the <code>nmmain</code> table is <code>names</code> .
prompt	A message that opens on the screen, prompting for an action.
ReAddr	The button used to verify or modify a geobase record in the Geobase Address SAA Backdoor table (<code>gbaddrx</code>). Use ReAddr to verify a physical address or intersection or recalculate its x- and y-coordinates. When using ReAddr to verify an address, a list of one or more valid candidates displays on the screen. Select the correct address to begin recalculating the x- and y-coordinates.
record	A collection of information on one person or item. For example, a Name record holds information about one person.
record number	The unique number identifying a record throughout the Spillman software. It is located at the top of the record, and can contain up to 9 alphanumeric characters.
report	An account or summation of certain information in the software. For example, a Law Incident Summary report can be run to provide a summary of incidents that occurred on the dates and at the locations specified.
SAA	Spillman Applications Administrator. The person within an agency who is responsible for maintaining the Spillman application software and for training employees on the Spillman software.



search routine	The pattern of actions used to find information in the software. When searching for records in a table, information must be entered that identifies or matches the records to be used. The software searches the table for any records with that information. For example, last name, brand name, or address.
secondary origin point	The origin point of an area for the jurisdiction with its own addressing system. For example, another city, or a university, military base, or subdivision. Secondary origin points are optional in the geobase, and are created manually.
security	The protection of data from unauthorized use. The SAA defines user privileges associated with security.
selection or search criteria	The data entered in a search field to limit the set of records returned by the search.
selection set	Records the software finds that match the search criteria.
shapefile	A format for storing vector data, such as points and areas on a map.
software	Programs that tell the PC (hardware) what to do. The Spillman software is loaded into the Spillman server and individual client machines. Computer hardware and software are like a VCR (hardware) and videotape (software). Both hardware and software are required for a usable system.
SQL	Structured Query Language. A computer language used to ask questions about data in a relational database. In your GIS, SQL is used for queries to find records that meet specific criteria. For example, to find streets that lie within a specified zone.
Street Part Abbreviations table	See “gbabbr” on page 393 .
street segment	A portion of a street. When setting up the geobase, each street is broken into segments wherever it changes directions, makes a significant curve, or changes in house spacing. Each street segment has unique beginning and ending coordinates and house numbers.



Street Zone detail window	See “gbzone” on page 394 .
submenu	A menu within a menu. Selecting an item on a menu may open a submenu.
system involvement	Connections (or involvements) the system creates automatically. For example, when the name of a complainant is entered in a Law Incident record, then the software automatically creates a system involvement between the Law Incident record and the Name record of the complainant.
table	A collection of records of a particular type in the Spillman software. For example, all Name records are in the Names table (<code>names</code>) and all Vehicle records are in the Vehicle table (<code>vehicle</code>).
tbzones table (Spillman)	The Zones Codes table in Spillman used to enter codes that define all zones, reporting areas, and response plans. The <code>tbzones</code> table contains the code assigned to each zone, a description, the responding agency, and the x- and y-coordinates for the zone’s center. Do not confuse the Spillman <code>tbzones</code> table with the <code>tbzones</code> table in ArcGIS.
tbzones table (ArcGIS)	A table in ArcGIS that is created when the Create Zones tool is run. The <code>tbzones</code> table contains information from all the zone tables created in ArcGIS. The Create Zones tool is part of the Spillman software extension. Do not confuse the <code>tbzones</code> table in ArcGIS with the Spillman <code>tbzones</code> table.
text editor	A computer program that allows free text to be written and edited. In the Spillman software, a text editor can be or is opened whenever data is entered in a text field. For example, the Comments field in a Name record. The information entered is stored in a separate file.
text field	A field that allows information to be entered with no character limits. In a text field, click Editor or press Ctrl+E to open a full text screen. For example, the Comments field on the Names screen is a text field.
trivial alias	The preferred street name, assigned as an alias so the system can access the street by its preferred name. The system automatically assigns the preferred name as the trivial alias when a street segment record is added.



wildcard characters A character entered in a search to represent another character or group of characters that are unknown. For example, if it is unknown whether the name Ingels or Engels is being search on, enter ***ngels**, where the asterisk (*) wildcard character represents the unknown character.

Zones Codes table See [“tbzones table \(Spillman\)” on page 399](#).